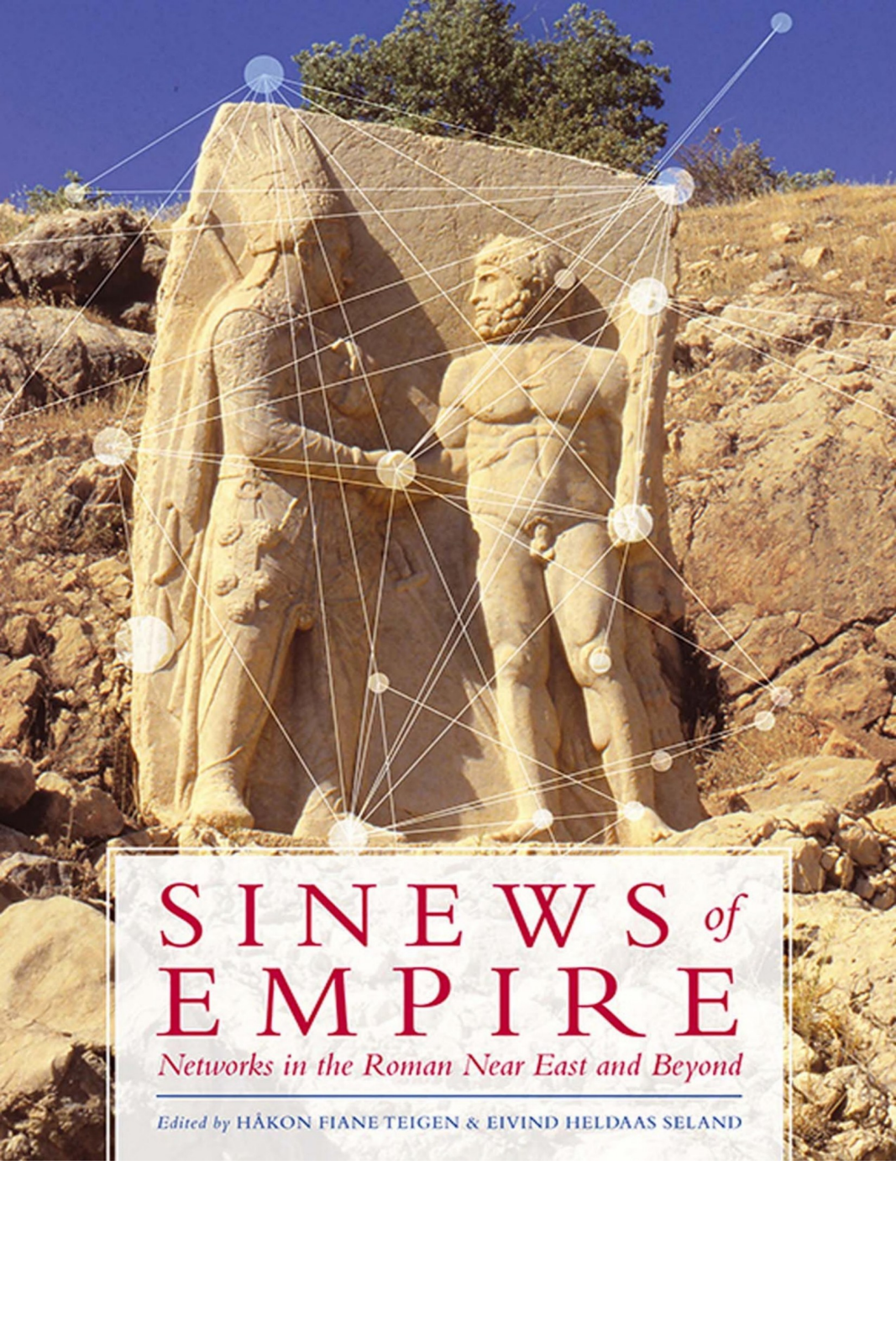




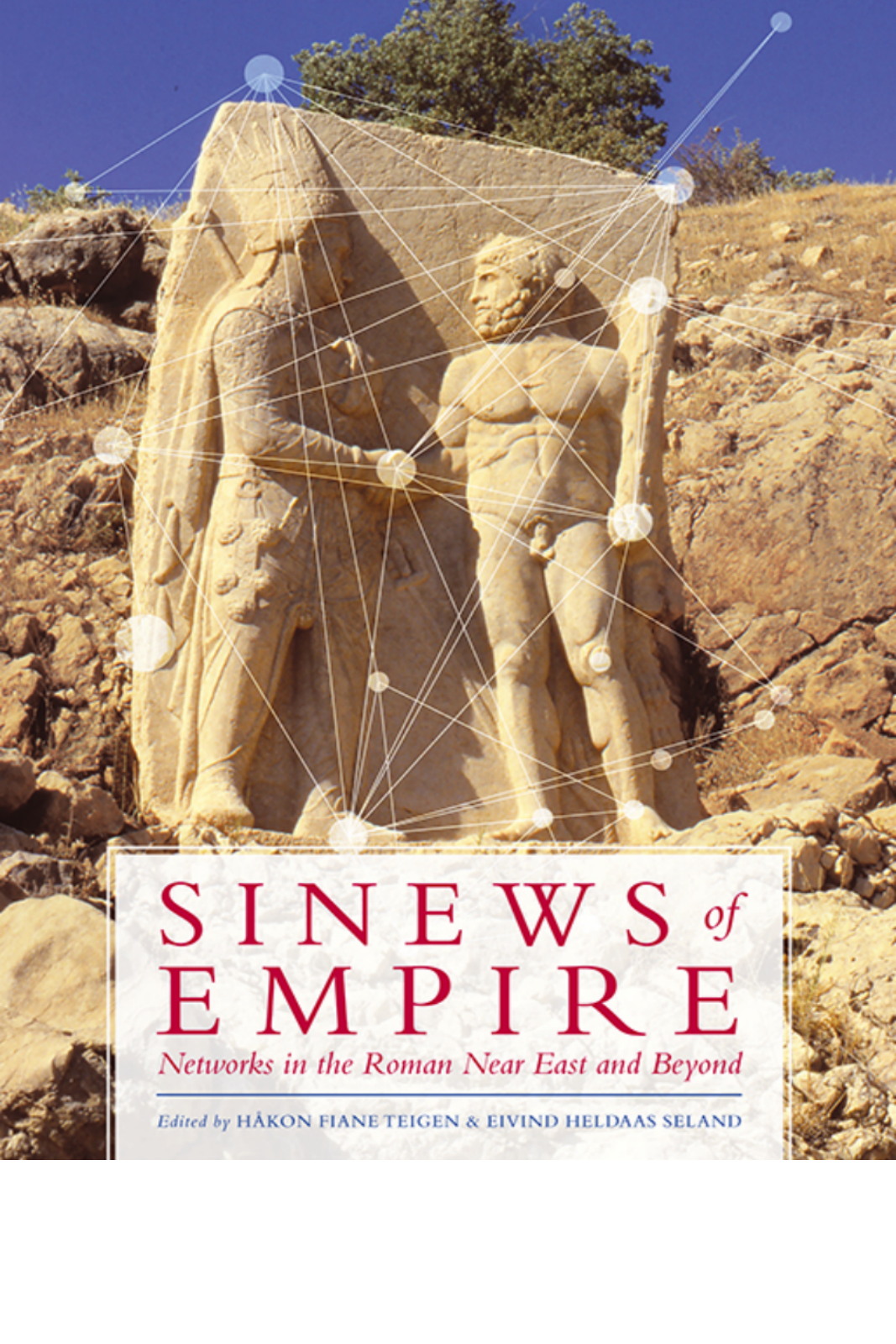
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Networks in the Roman Near East and Beyond

Edited by HÅKON FIANE TEIGEN & EIVIND HELDAAS SELAND

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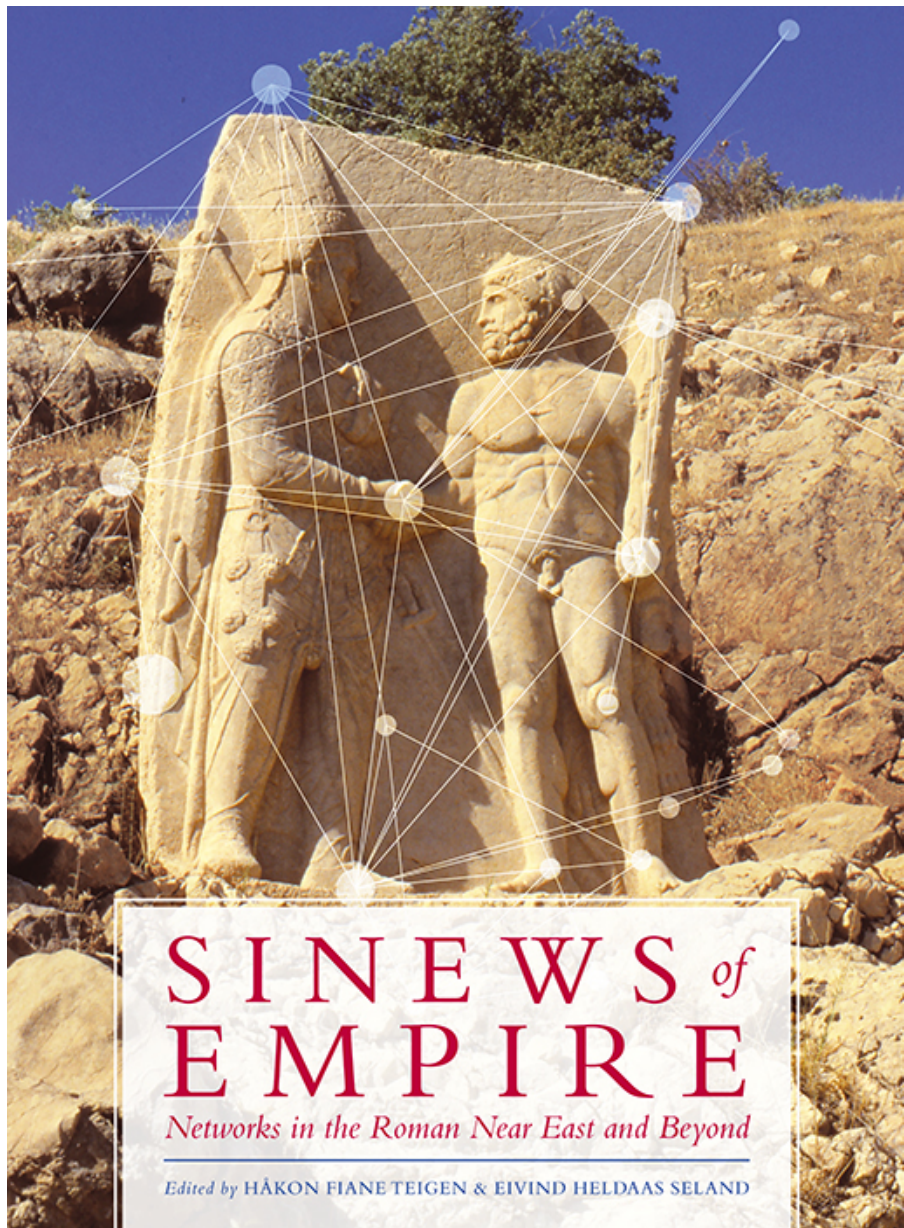
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OXBOW | books

Oxford & Philadelphia

Published in the United Kingdom in 2017 by
OXBOW BOOKS
The Old Music Hall, 106–108 Cowley Road, Oxford OX4 1JE

and in the United States by
OXBOW BOOKS
1950 Lawrence Road, Havertown, PA 19083

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Hardback Edition: ISBN 978-1-78570-596-0
Digital Edition: ISBN 978-1-78570-597-7 (epub)

A CIP record for this book is available from the British Library

Library of Congress Control Number: 2017935865

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Printed in Malta by Melita Press
Typeset in India by Lapiz Digital Services, Chennai

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Front cover: Antiochus I of Commagene shaking hands with Heracles, Arsameia on the Nymphaios, Turkey, 1st century BCE. Photo: Jørgen Christian Meyer

Back cover: Loculus relief depicting mother and daughter. Ny Carlsberg Glyptotek, Copenhagen I.N. 1025 (© Palmyra Portrait Project). Reproduced with the permission of the Ny Carlsberg Glyptotek, Copenhagen.

Contents

Introduction: Sinews of empire and the relational turn in classical scholarship

Håkon Fiane Teigen and Eivind Heldaas Seland

1 Going mental: Culture, exchange and compromise in Rome's trade with the East

Wim Broekaert

2 Sinews of belief, anchors of devotion: the cult of Zeus Kasios in the Mediterranean

Anna Collar

3 Numismatic communities in the northern South Caucasus 300 BCE–300 CE: A geospatial analysis of coin finds from Caucasian Iberia and Caucasian Albania

Lara Fabian

4 The diffusion of architectural innovations: Modelling social networks in the ancient building trade

Henrik Gerding and Per Östborn

5 Texture of empire: Personal networks and the *modus operandi* of Roman hegemony

Michael Sommer

6 Sinews of the other empire: The Parthian Great King's rule over vassal kingdoms

Leonardo Gregoratti

7 Speech patterns as indicators of religious identities: The Manichaean community in Late Antique Egypt

Mattias Brand

8 Networking beyond death: Priests and their family networks in Palmyra explored through the funerary sculpture

Rubina Raja

9 Trade networks among the army camps of the Eastern Desert of

Roman Egypt

Yanne Broux

10 Palmyrene merchant networks and economic integration in competitive markets

Katia Schörle

11 Businessmen and local elites in the Lycos valley

Kerstin Droß-Krüpe

12 The social networks of Late Antique western Thebes

Elisabeth O'Connell and Giovanni R. Ruffini

Introduction: Sinews of empire and the relational turn in classical scholarship

Håkon Fiane Teigen and Eivind Heldaas Seland

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In 1993, archaeologists working in Vallerano, a southern suburb of Rome, were excavating the necropolis of an imperial period villa. Most graves were humble, containing the ashes of what were probably workers at the rural estate, but one stood out. It contained the remains of a young woman, approximately 18 years of age, buried during the reign of Marcus Aurelius, with her ivory doll and a rich collection of jewellery, including the only diamond yet recovered from a Roman archaeological setting.¹ The ivory used for the doll, of course, came from India or Africa. Most gemstones and all diamonds in antiquity originated in South Asia. The unusual choice of inhumation, the rich grave goods, the eastern and southern imports, and parallels between the jewellery found in the grave and that depicted on funerary sculptures from Palmyra, led the excavators to suggest that she was connected to the Syrian diaspora settled in the imperial capital.

In addition to bearing a touching testimony to a life cut short on the threshold of adulthood, the girl from Vallerano reminds us that all people constantly engage with their surroundings – spatial and material, as well as intangible. In doing so, we establish connections, some lasting, others ephemeral, but nonetheless potentially significant. Studying these connections is a way of gaining insight into the world that produced the data and sources we address as scholars. Over the last decade, such perspectives have changed the manner in which we approach the ancient world to the extent that it makes sense to speak about a relational turn in the classical disciplines. While not replacing the linguistic, spatial and material turns that have reshaped the humanities since the 1970s, the relational turn has nonetheless arguably brought our various sub-disciplines into closer dialogue with one another, as well as with the natural and social sciences.

No man is an island

The roots of the relational turn lie in a simple argument that relationships between entities are as important as – or, according to some, more important than – their attributes. This notion was central for intellectual tides such as the Durkheimian sociology, Saussurean linguistics, and philosophical trends of the mid-late twentieth century, perhaps best exemplified by the work of Deleuze and Guattari. More recently, it has been the prime point of agreement in the school termed relational sociology, associated with Harrison White and Charles Tilly. Today, the language of ‘networks’ and ‘connectivity’ has become ubiquitous in the social sciences; in fact, the image used as an emblem for Wikipedia articles on sociology at the time of writing is a snapshot from a network graph.

In the 1990s, the idea of the network and information society gained ground, expressed perhaps most explicitly in Manuel Castells’ *The Rise of the Network Society* (1996).² Castells held that his contemporary world of the 1990s was in the process of leaving the industrial era, entering a new period where power was manifested in social networks, and where information and control of information flows were the structural elements integrating or disconnecting individuals, groups and places in the network. Time and space were compressed as a result of advances in technology, and partly lost their restraining influence on how networks operated. While Castells was describing his contemporary world and our recent past, scholars have also found the idea of the network society important for an understanding of the ancient world, despite its lack of modern technology.³ In historical sociology, Michael Mann’s model of social elite networks based on ideological, economic, military and political sources of power has been instrumental in disconnecting network theory from its uneasy marriage with modernity.⁴ If power, as Mann argues, has multiple sources, and grows and takes shape within social networks, it is neither a zero-sum game, nor necessarily dependent on control by the state. This insight is useful in the study of societies with small and weak states, in the past as well as today. Related perspectives follow from the work of Douglass C. North and his colleagues within New Institutional Economy. NIE emerged as a result of the need to bring cultural variables into the equation, following the realisation that classical economic theory was not able fully to explain observed economic behaviour. North proposes that the social world can be approached as a set of organisations and institutions. Organisations are groups of people working, partly coordinated,

towards a combination of individual and common goals. Examples might range from a modern nation state to a university or a Roman period nomadic tribe. Institutions are the formal and informal patterns shaping interactions between groups and individuals, such as marriage, citizenship, friendship and hospitality.⁵ This is also a relational framework, as organisations, in the sense employed by North et al., are social networks and institutions represent the ties integrating these networks.

Where most historians taking the relational approach to the past have emphasised relations between people as reflected in documents (in a wide sense of the word), archaeologists have also been inspired by the spatial and material turns that have shaped their disciplines over the last decades, and where seeing people in context with their natural and material surroundings has been the natural first step on the way to understanding social structures. The main theoretical impetus for bridging the gap between material and human surroundings has arguably come from actor network theory (ANT) and the work of Bruno Latour. Latour argues that networks have no existence independent of the actual interaction between actors, and that places and objects, being instrumental in facilitating such interaction, also constitute social actors and become parts of social networks.⁶ ANT thus lays the ground for seamlessly integrating places and objects into sociological models such as those of Mann and North outlined above, as well as into network analysis and related approaches.⁷ This has been pivotal in dismantling disciplinary boundaries between archaeology, history and philology and preparing the ground for interdisciplinary investigations of the past.

The analytical tools needed to operationalise the theoretical insights described above have to a large extent been supplied by the emergence of the related fields known as social network analysis (SNA) within the social sciences and network science within the STEM disciplines. The terms and some of their basic assumptions are rooted in the work of thinkers such as Tönnies, Simmel and Durkheim. The narrower field of SNA grew out of converging interests within several different social scientific traditions of the mid-twentieth century. Social scientists, anthropologists and social psychologists all contributed to its early development, beginning with the sociometry developed by Moreno in the 1930s. Models and terms borrowed from mathematics, such as graph theory and probability theory, also played an important role. Among anthropologists, development of the field was spurred by difficulties in applying the abstract categories of

structural functionalism to empirical material from ethnographic studies. Many sought new ways of approaching patterns of human interaction. The terms they adopted were added to a growing body of notions that could only very loosely be described as a theory,⁸ but which were gradually systematised into a set of formal methodological tools. The comprehensive reference book of Wasserman and Faust (1994) was a central work in this regard.⁹

Networks and the study of the ancient world

The impact of this new body of theoretical concepts was felt within the historical disciplines, where its increasing influence can be seen from the 1980s onwards. Some early studies using formal mathematical models include Rosenthal et al. on women's reform organisations in New York, Gould on the Parisian commune, Bearman on kinship structures in sixteenth- and seventeenth-century Norfolk, and Ansell and Padgett on the rise of the Medicis in Renaissance Florence.¹⁰ These studies were instrumental in bringing new perspectives to the views of historians, and have since been supplemented by methodical reflections such as those of Emirbayer and Goodwin, and Erickson.¹¹ Since 2000, the field has grown vast and diverse, with both formalistic and heuristic approaches being explored. The interaction of social network theory with works on spatiality, linguistics and materiality has greatly expanded the horizons of scholars working with the ancient world, as this volume hopefully attests to.

Within classical studies, the field of religion became an early testing ground for network theoretical approaches, the 1992 volume of *Semeia* being a landmark.¹² Some years later, Stark's *The Rise of Christianity* utilised networks as a framework to explain the eventual dominance of Christianity in the Roman Empire, and Hezser's *The Social Structure of the Rabbinic Movement in Roman Palestine* examined the development and organisation of Rabbinic Judaism.¹³ These studies both utilised network notions heuristically in their analyses. Another example of this approach is Harland's work on the relationship between Christian groups and ancient associations.¹⁴ Two recent studies of ancient religion that have engaged with formal analysis are Schor's *Theodoret's People*, which examined the networks of the opposing sides in the Nestorius controversy of the fifth-century Christian church through ecclesiastical texts, and Collar's *Religious Networks in the Roman Empire*, which examined the diffusion process of

cults and religious movements in the Roman Empire through epigraphy.¹⁵

Studies dealing with broader issues of economy, geography and social formation have had a crucial impact on the classical field since the turn of the millennium. A milestone was Horden and Purcell's *The Corrupting Sea*, which used the language of networks to conceptualise the pre-modern Mediterranean as a set of interconnected micro-regions.¹⁶ The networks of the Mediterranean were also the subject of a special issue of the *Mediterranean Historical Review* (no. 1, 2007), and of Malkin's *A Small Greek World*, where he combined traditional notions of connectivity with newer terms derived from mathematics and physics, and argued that a Greek identity only emerged in conjunction with the settling of colonies by Greek city states around the Mediterranean in the archaic period.¹⁷ In a more formal tradition, Ruffini applied statistical concepts drawn from SNA (in particular that of centrality) to papyri from two Egyptian sites, the village of Aphrodito and the *polis* of Oxyrhynchus, in order to explore social hierarchy and distance and in Byzantine Egypt.¹⁸

In archaeology, interest in relational approaches arguably remained limited until about a decade ago,¹⁹ exceptions such as Broodbank's 1993 application of proximal point analysis to model connectivity in the Bronze Age Aegean initially having limited methodological impact, only to be taken up in recent years.²⁰ Relational approaches, however, offered opportunities for modelling relationships between places, objects, animals and people in the past, thereby reaching across any perceived divide between different kinds of data and different kinds of actors, as exemplified, for instance, in Hodder's tanglegrams.²¹ Graham's analyses of Roman itineraries and brick-making industries were pioneering examples of SNA applied to spatial and material data.²² Knappett's work has been instrumental in bringing together and demonstrating the usefulness of a plurality of network approaches, while Brughmans has been at the forefront of bringing archaeology in line with the parallel tradition of network science, offering tools for quantitative analysis and computer modelling that were until recently beyond most archaeologists.²³ Compared to religion and history, network approaches have arguably had a broader impact on the discipline of archaeology, with a number of edited books showing examples of how methodologies can be applied across chronological and geographical sub-disciplines.²⁴

Why networks in the Roman Near East?

This book is a product of the research project *Mechanisms of cross-cultural interaction: Networks in the Roman Near East* (2013–2016). The project was funded by the SAMKUL initiative of the Research Council of Norway, which promotes research investigating the cultural preconditions of societal development, and explicitly calls for scholarship addressing contemporary large-scale and global challenges. This is part of a wider international challenge to the humanities for relevance and outreach. While acknowledging and appreciating the open-mindedness of the funding agency in defining societal relevance, we remain unapologetic for bringing the Near East in the Roman period into this spotlight. The Near East was ruled by large, multi-ethnic empires for the whole period from the Neo-Assyrian expansion until the end of European colonialism, and remains an area where former imperial powers have a stake in regional development. With the exception of a short century of Umayyad rule in Damascus, the imperial metropolises were always situated outside the Near East in a narrow sense of the term, whether in Rome, Ctesiphon, Cairo, Baghdad, Istanbul, Paris or London. The longest period of political stability in the Near East was under Roman rule, from the settlement of Pompey in the first century BC until the Arab conquest almost exactly seven centuries later. The Roman period saw its share of invasions, rebellions, civil wars and natural disasters, but the overarching political framework endured, even if, or perhaps largely because, it was in constant change. A strong scholarly tradition has addressed Roman rule in the East,²⁵ but arguably most studies have cast Rome as either an agent of civilisation or, alternatively, one of oppression, while local response has generally been interpreted in light of either accommodation or resistance. Valuable as these perspectives remain, our aim has been to duck below the imperial veneer and approach the resilient and ubiquitous everyday ties of religion, commerce, power, language, ethnicity, etc. that united and divided people in the Near East both within and across changing imperial borders. These ties, we argue, formed the networks that were the sinews of empire, not only in the Roman period, but throughout the premodern history of the Near East, for they did not exist isolated from the imperial superstructures, but engaged with them and thus became part of them. In this also lies the relevance of the Roman Near East to our contemporary world. The Roman Near East was a premodern society. Like others of its kind, it was characterised by a weak and absent state power dominated by small elites, who utilised

the government apparatus and its capacity for violence to consolidate power and stream revenue in their own direction. As North and colleagues have pointed out, this still holds true for many states in the contemporary world, which retain premodern traits despite legislation that in theory would guarantee, for instance, equal rights and political influence to all citizens.²⁶ The civil war in Syria and the state collapse in Libya are uncanny reminders that social networks based on religion, ethnicity and tribal affiliation often trump loyalty to the state when matters come to a head. The networks that once existed in the Roman Near East have long since been replaced by others, but the dynamics between competing social networks remain similar. In this way, study of the distant past provides relevant perspectives on the contemporary world, while at the same time contributing towards reducing the exoticism that has arguably been cultivated by some students of the classical world, as well as other disciplines within the humanities.

The volume brings together papers presented at a conference at the Norwegian Institute in Athens in December 2015. It reflects the aim of the conference, which was to explore how a range of network perspectives, from theoretical discussions by way of formal and quantitative analysis to descriptive inquiry, have the potential to yield novel yet concrete insights into interaction in the Roman Near East. In this respect, it is distinct from a number of edited volumes that have appeared in recent years, applying primarily formal and, in many cases, quantitative methodology.²⁷ The decision to include a plurality of approaches came from our conviction that a relational view of the past should integrate theory, methodology and discussion of data. Most case studies in this volume have their emphasis on one part of this triad. Nevertheless, we feel that in addition to demonstrating the potential of network approaches to different fields of study, they also come together to demonstrate how relational perspectives permeate the scholarly process.

Our authors address networks operating on various scales and within different spheres. The first group of chapters addresses macro-scale cultural and economic interaction. Wim Broekaert's contribution on trade between the Roman Near East and the western Indian Ocean region draws on cognitive science and New Institutional Economics to explain how merchants from Arabia, India and the Roman Empire could find common cultural ground, thus facilitating trust and reducing transaction costs. Anna Collar's investigation into the symbolic seascape of the ancient Mediterranean addresses how the

cult of Zeus Kasios, originating from a holy mountain on the present day border between Syria and Turkey, can be traced across the Mediterranean by means of epigraphy, archaeology and topography, allowing an outline of a religious network once in existence. Lara Fabian applies Geographic Information System (GIS) tools to develop a route model for the area occupied by the ancient Caucasian kingdoms of Albania and Iberia. The model is used to analyse the distribution of numismatic finds in the region, opening questions about the relationship between regional economy, politics and communication between nomadic peoples to the north and the Roman and Arsacid empires to the south. This part of the book ends with Henrik Gerding and Per Östborn's study of the mechanisms of innovational diffusion, exemplified by the spread of fired brick in the Eastern Mediterranean in the Late Hellenistic and Early Roman Periods. Innovations are spread and adopted by people, enabling insight into the mechanisms of the social networks of builders, architects and patrons.

The second group of papers addresses social organisation from both macro and micro perspectives. Michael Sommer's contribution goes to heart of the question posed in the title of the book by discussing the importance of interpersonal ties in the day to day operation of the Roman Empire. Leonardo Gregoratti investigates how networks of friendship, family and patronage, and also military coercion, held together Rome's great rival to the east – the Arsacid Empire. Moving from the imperial level to local communities, Mattias Brand demonstrates by way of social network analysis how language served as identity markers among Manichaeans and Christians in Late Roman Egypt. Rubina Raja investigates how all-important family networks were represented in Palmyrene funerary art.

Our final four chapters address the operation of social networks on the local and regional levels. Yanne Broux reconstructs the social and commercial world of people living in outposts on the desert route between the Red Sea and the Nile from evidence of ostraca. Katia Schörle utilises microeconomic theory to offer a novel explanation for the expansion of Palmyrene commercial activities from Syria and the Persian Gulf to Egypt and the Red Sea. Kerstin Droß-Krüpe shows how the dense epigraphic tradition of Asia Minor allows the reconstruction of integration between elite and commercial networks on the local level. In the last chapter, Elisabeth O'Connell and Giovanni R. Ruffini use Walter Till's 1962 prosopography of the Egyptian village of Jebe as a basis for a social network of 5,000 people connected by legal

records, proceeding to discuss what this network can tell us about Egyptian society at the end of the Roman period.

Sinews of empire?

So, were networks the sinews of an empire that dominated the Near East for seven centuries? The answer is yes—and no. Yes, because social networks in their different manifestations were the mechanisms that facilitated and regulated interaction in a world where the presence of the imperial polity state was only a small, even if potentially extremely important, aspect of everyday lives, and also because social networks were important for the cultural cohesion of an empire that had few formal instruments of power beyond the use or threat of military force at its disposal. No, because even if agents of empire became deeply integrated in networks of power, trade and religion in the Roman Near East, and used them as instruments of power, these networks were to a large extent in existence before the introduction of Roman rule to the region, and continued to be there in changed form after the end of the Roman period.

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1. Going mental: Culture, exchange and compromise in Rome's trade with the East

Wim Broekaert

Abstract: *Economic globalisation creates challenges for entrepreneurs, who duly recognise the opportunities and long-term prospects of capturing and exploiting new markets but may hesitate at the barriers to entry. Suddenly arriving in new worlds, they are confronted with unfamiliar cultures, religions, languages and habits. They have to cope with new modes of transaction, gain access to local commercial networks and become acquainted with political and legal institutions. Modern society has developed business and management schools to alleviate these problems by offering courses on how to act when faced with the challenges of new markets. In the absence of these, Roman entrepreneurs devised other strategies to engage competitively with markets on the fringes of and beyond the imperial frontiers – some new, others rooted in the existing institutional framework of Roman business. This chapter will draw on cognitive science and New Institutional Economics to analyse the interaction between Roman, Arabian and Indian trading communities and the subsequent change or stability in economic strategies. In the first section, I present a model for human behaviour, determined as it is by both genetics and adaptive learning. This framework limits an individual's options in both familiar and unfamiliar settings and structures his or her decision-making process. The second section applies this*

model to intercultural exchange in the East during Roman Antiquity and considers the survival of existing institutions as well as the introduction of new developments. A final section offers some conclusions.

Keywords: Mental models; Roman India; religion; culture; trade diaspora

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Limits to free will? A hierarchical model of human behaviour

Values, culture and personal preferences have long been considered to lie beyond the scope of economic science. The neoclassical *homo economicus* was a perfectly rational, self-interested individual, never led astray by subjective ideas or beliefs from his sole purpose in life, viz. profit-maximising behaviour. The standard view of contemporary economics and ancient economic history, however, opts for a more realistic approach to human conduct and includes irrational behaviour, altruism, belief systems, convictions and ideas in the analysis of human interaction.¹ The question then is how and to what extent an individual becomes influenced by these systems. Economic science therefore has incorporated findings from evolutionary biology, psychology, sociology, anthropology and similar disciplines to define a more accurate model of human conduct. The idea that cognitive rules to a large extent govern individual behaviour is now commonly accepted in most social and economic science disciplines.² Rules help humans to reason, make causal connections, assess probabilities and interpret the surrounding environment. They shape an individual's expectations of other people's behaviour and thus guide his or her decision-making in life.³ In ascending order of particularity, three different sets of cognitive rules can be distinguished.⁴ On the first and most basic level, evolutionary biology and evolutionary psychology both suggest that humans are genetically inclined towards reciprocity and cooperation (even at small costs and despite the notion of self-interest); on the other hand, we feel resentment when honesty and cooperation are not reciprocated.⁵ Even though this genetic coding will never exclude the possibility of immoral behaviour and egotism, most humans will develop a preference for cooperation and avoid hostility in order to increase their chances of survival and feelings of psychic well-being.

The second level consists of rules communicated and discussed

through social interaction. Most rules are transmitted through discourse during childhood by trusted persons (parents and family) and authority figures (elders and teachers), or through socialisation and exposure to the conduct and preferences of more experienced individuals (respected and powerful adults). Especially by imitating family members or members of other small groups and receiving feedback, children can detect and adopt behavioural patterns.⁶ This process results in a set of compatible theories accepted by the majority of individuals living in the same social context or, in other words, a shared mental model.⁷ Unlike the first level, these rules develop within particular societies and cultures and are shared by a varying number of individuals. Shared mental models in turn create institutions, formal points of orientation that help people make appropriate decisions or, in the famous words of North, 'rules of the game,' 'humanly devised constraints that structure political, economic and social interaction (...) both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights).'⁸ By limiting the possibilities, institutions make behaviour to some extent predictable and hence reduce uncertainty and complexity.

The third and final level includes all additional rules and preferences people acquire through family life, some of which are perfectly compatible with or minor alterations to the shared mental model, while others can question the common model, without however completely invalidating and replacing the model. These rules are acquired early in life and become inherent features of an individual's personality, making them very difficult to change.

In the following sections I will focus on the meso-level of shared mental models and institutions, because the first level is so to say practically a given, evolving extremely slowly at a pace that is barely noticeable, while the analysis of the final level requires detailed descriptions of personal education, experience and motivations that are simply unavailable for the period under discussion.

Foreign markets and cultural anxiety

Globalisation, and exchange in competitive foreign markets in particular, poses new challenges, precisely because tried and tested but context-dependent mental models no longer offer perfect guidance.⁹ The conventions and rules directing the conduct of outsiders are unknown and their behaviour unpredictable because,

even when acting in the same environment (i.e. commercial hubs), different personal mental models result in different decision-making. Mutual distrust grows out of the expectation that the other may be untrustworthy and act opportunistically. Yet, in order to make interaction and exchange possible, individuals try to reduce this uncertainty and anxiety.

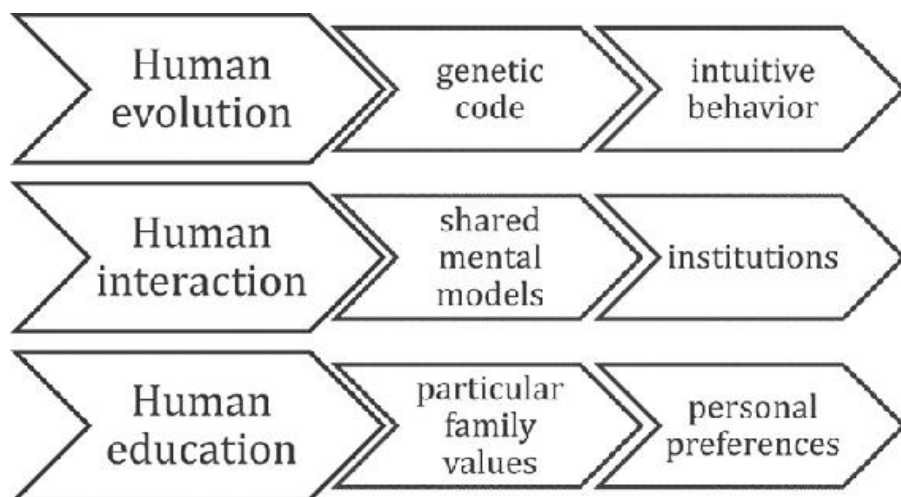


Figure 1.1. Cognitive rules and human behaviour.

One solution to overcome the problem of conflicting mental models is to impose a single model on outsiders. This strategy not only requires a dominant and powerful group capable of convincing (or rather forcing) others to accept their model, but also entails high costs in monitoring oppressed groups and enforcing the governing model.¹⁰ Particularly in regimes of imperialism and colonialism, this approach has been favoured over a more nuanced mode of interaction. While often successful in the short run (if only because of military supremacy), in the long run the use of force in trying to completely change peoples' mental models has proved unsuccessful.

Therefore, in order to cooperate more efficiently, people need to communicate and find a common ground from where to start, a 'shared interpretation of the salient features of a decision context.'¹¹ Individuals first tend to compare the new cultural context with their past experiences in search of similarities, hoping that their cognitive rules will provide a solution. However, the more alien the new situation is for individuals, and the more distant from the social context in which their proper mental model had been developed, the less likely it is that the outcome will be helpful. New situations

therefore require changes to the initial framework to cope with the alterations. Mental models tend to be rather resistant to quick modification, however, for three reasons. First, the process of development of models is slow and starts at an early age; second, the human mind tends to favour feedback and information that support one's existing opinions; and, finally, switching between different models creates costs and (temporary) uncertainty.¹² The risk of path dependency and strategic inertia then looms in the background. Individuals are only motivated to change models when they are confronted with conflicting information which cannot easily be dismissed without them becoming isolated or missing out on opportunities. Economic competition in particular is a powerful motive for learning and changing preconceptions: 'Competition, reflecting ubiquitous scarcity, induces organisations to engage in learning to survive.'¹³ In a globalising context with fierce competition, the amount of information incompatible with an individual's existing mental model and the threat of being excluded can be so large as to prompt a change of models. Often it is through repeated trial-and-error procedures in competition and interaction with others and the following results that individuals start a learning process to improve their model, which eventually will again allow rule-following instead of costly and time-consuming case-by-case assessments.¹⁴ One of the most interesting features of the human learning process is indeed the so-called representational re-description, the ability to modify the solution to a single problem so that it can be applied to a wider range of problems.¹⁵

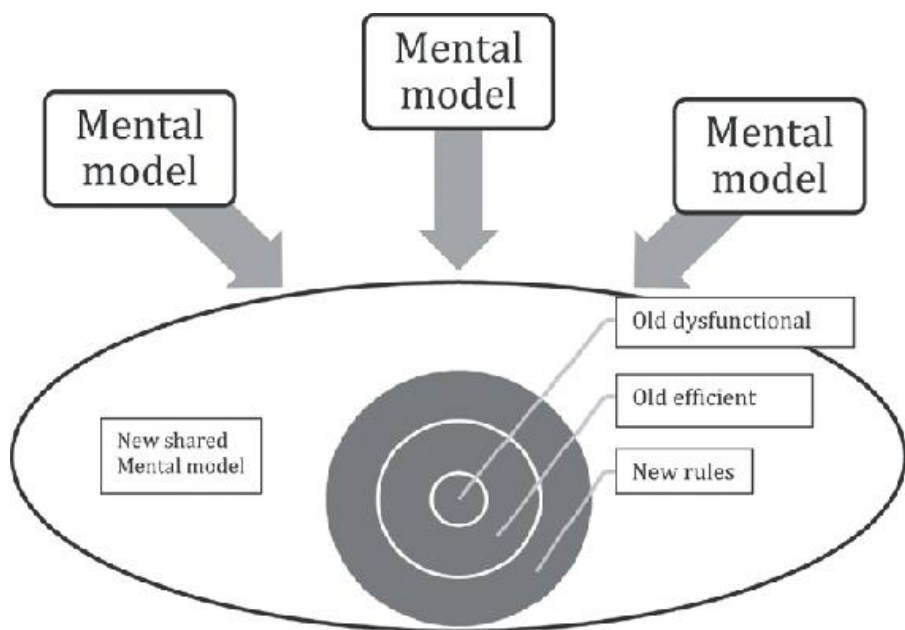


Figure 1.2. The creation of a new mental model.

The outcome of this process of interaction is a modified mental model that is understandable and applicable by both parties, which includes new rules (through learning), surviving and still efficient rules (through assessment and confirmation) and sometimes even surviving dysfunctional rules (through path dependency). It is possible, but not certain, that some now obsolete aspects of the initial mental model will be deleted in favour of common traits. The more individuals experience conflicts between their shared mental model and the new situation, the more easily adjustments will be implemented among a larger share of the community.

It goes without saying that the new shared mental model will create new institutions. Yet, as the model had been created as a solution for a small number of individuals operating in a distant and foreign environment, the new mental model will first result in the establishment of informal modes of conduct before being formalised into formal institutions. For smaller groups of people who regularly meet and engage in exchange, informal institutions that allow cooperation, stimulate mutual trust and discourage free-riding largely suffice.¹⁶ More than that, it is the establishment of informal agreements and internally enforced modes of conduct that triggers and enables the creation of more stable formal institutions. As already argued above, the export or imposition of mental models without

communication with the receiver and consequent adaption is extremely difficult. In the same way, the transfer of formal institutions will only be successful when preceded by the agreement on informal institutions.¹⁷ Especially in distant markets where parties with diverging mental models interact and legal sanctions may be difficult to enforce, informal ostracism and the threat of reputational damage can therefore be more effective than formal institutions, as long as individuals refrain from mass violation. In the end, a new conventional model enriched with functional institutions emerges to establish moral standards and professional norms in order to guide interaction. Ideally, appropriate models and institutions will increase the security of exchanges, lower transaction costs and lead to greater economic efficiency, until the need for an improved model is felt.

The new institutional framework created by the developed mental model must ideally stimulate exchange by offering a solution to potentially harmful institutional voids, which nearly always limit and complicate cross-cultural exchange. In order to identify the most common voids requiring appropriate informal and/or formal institutions, I rely on contemporary management literature analysing the clash of mental models in current globalising markets.¹⁸ At least six different kinds of institutional voids can be distinguished:

1. Information: All parties involved in exchange must be able to gather and check information on the economic background of potential business partners, in order to evaluate supply and demand and calculate reasonable price levels.
2. Credibility: Buyers and sellers must also collect information on the trustworthiness of other entrepreneurs, in order to assess their reputation and honesty in previous transactions.
3. Distribution channels: Institutions must help buyers and sellers to find a match and reach an agreement, if necessary through intermediate negotiation.
4. Agreements: Institutions provide information on the legitimacy of agreements.
5. Transactions: A variety of institutions is necessary to facilitate exchange, in particular financial institutions to provide credit, change money, allow deposits etc.
6. Redress: Business partners must be able to resolve disputes through formal jurisdiction or informal enforcement mechanisms.

With this theoretical approach to cultural interaction and its relevance

to economic exchange in mind, the remainder of this chapter will discuss various formal and informal institutions employed by Roman merchants in order to reduce cultural distances, establish new workable mental models and provide answers to institutional voids in cross-cultural trade with other ethnic and cultural groups participating in the trade with Arabia and India.¹⁹

***Exoriente iniuria?* Cross-cultural trade in the Roman East**

More than two decades have passed since Fergus Millar deemed every attempt to approach the nature of Rome's commerce with the Near East completely pointless: 'A social and economic history of the Near East in the Roman period cannot be written. None of the conditions for such a history are present.'²⁰ When the focus shifts even further away from the Mediterranean, viz. to the Roman Far East (southern Arabia, India and Sri Lanka) and to the commercial exchange between these regions and the Near East, any effort seems even more desperate. Millar's maxim still stands, as long as one has an elaborate chronological discussion of regional economic developments in mind. On a more abstract level, I believe we can explore various solutions that entrepreneurs developed to cope with the intricacies of cross-cultural trade in and beyond the frontiers of the Roman Empire.

Mental distance and local middlemen

First, however, a careful distinction needs to be made between exchange in the East taking place within Roman frontiers and trade with regions not incorporated in the empire. The reason is obvious; Roman state formation, and the subsequent presence of formal governmental institutions as a kind of super-structure, supported the spread of a Rome-oriented mental model or, in other words, stimulated Romanisation.²¹ Romanisation in turn facilitated the spread of a shared socio-cultural model able to reduce most potential economic conflicts between business people from the western and eastern parts of the Mediterranean. However, as I have argued elsewhere, the development of a shared mental model as a consequence of increasing Romanisation did not exclude a considerable level of local variance in customs and beliefs, recognised and sanctioned as such by the imperial government. Roman institutions were presented as a model to follow, but local institutions were allowed to coexist with and gradually adapt to the imperial alternatives.²² Rome recognised that forcing Roman institutions *manu*

militari upon all traditional institutions in the provinces would be a risky and above all costly process, even though local perception of the Roman presence sometimes questioned the chances for survival of indigenous traditions: a small second-century graffito in Jordanian Qa' Hisma simply stated: 'The Romans always win!'²³ Here I will not explore all the macro-economic effects of imperialism and the presence of Roman power in the eastern provinces, as these have been analysed in great detail elsewhere. I only mention the establishment of peace, increasing urbanisation, the development of road infrastructure, the use of Latin and Greek as *linguae francae*, the common coinage and legal framework as the most important effects of Romanisation paving the way for increasing cross-cultural trade.²⁴ The introduction of these institutions into provinces such as Syria was considerably facilitated by the profound political transformations, the settlement of colonisers in Greek *poleis* and the subsequent lasting veneer of Greek culture already present since Alexander's conquest.²⁵ Rome's imperial integrative features encountered relatively little resistance in assimilating Greco-Roman social and cultural idioms with Near Eastern culture, at least in the cities and among elites.²⁶ This process was also perceived as such by contemporary authors such as Philo of Alexandria, who applauded the emperor Augustus for 'having increased Greece by many Greeces and introduced Hellenic culture into the lands of the barbarians,' regions which, in his view, also included Palestine and Syria.²⁷ The consequence was that inhabitants of the Near Eastern provinces often mastered remarkable levels of multilingualism, including knowledge of languages spoken beyond the frontiers, which made them excellent interpreters well placed to negotiate between inhabitants of the empire and outsiders.²⁸ One can mention, for instance, the famous archive of Babatha, a collection of Greek, Aramaic and Nabataean documents of a Jewish woman living in the province of Arabia who was remarkably quick in adopting Roman legal procedures.²⁹ From an economic point of view, these frontier regions in particular were crucial in stimulating cross-cultural exchange and connecting the empire with neighbouring states. The citizens of Palmyra, Spasinu Charax and the Nabataean kingdom, for instance, engaged in a complex mediation and interweaving of different ethnic strands (including Roman, Greek, Aramaic, Parthian, Persian and Arabic culture), promoting them to the status of cross-cultural brokers.³⁰

This particularly advantageous position of cities and peoples bordering on different empires with their own distinctive mental

models made them well positioned in order to negotiate, as middlemen, between differing cultural and economic areas. This was even more the case as these cities were apparently allowed a rather independent status and enjoyed, to some extent, a *laissez-faire* approach from neighbouring, more powerful empires. The profits from interregional trade and the taxes levied by these empires apparently were considered more important than rigid political control.³¹ These intermediaries effectively bridged the cultural and economic gap by establishing outposts in the surrounding regions for which they acted as brokers.³² Nabataean entrepreneurs, for instance, settled in the commercial hubs of Italy to organise the import and further distribution of incense, and also in Egypt, where Nabataean cameleers managed the transportation of merchandise between the Red Sea coast and the Nile.³³ Similarly, Palmyrene merchants established several communities in cities situated on the route to the Red Sea, such as Seleucia, Spasinu Charax, Ctesiphon, Phorath, Babylon and Vologesias, but were also present in Rome and Egypt.³⁴ The settlement in Spasinu Charax, a port city at the head of the Persian Gulf where ships returning from India frequently arrived, seems to have been particularly important for Palmyra, as several Palmyrenes even managed to be elected to office in the city, no doubt to protect and promote their commercial interests on a local level.³⁵ That their presence in Spasinu Charax was motivated not only by profits derived from organising the further distribution of foreign merchandise to the Mediterranean is shown by two inscriptions indicating that Palmyrenes personally acted as middlemen in the Indian trade and sailed as far as north-west India.³⁶

Individual merchants acting as commercial middlemen were not the only ones to recognise the economic opportunities provided by frontier cities and peoples. Empires as well tended to protect, or even stimulate, cross-cultural exchange, if only because of the income to be gained from taxation. The Roman proconsul Germanicus, for instance, once sent a Palmyrene businessman, Alexandros, to southern Mesopotamia, most likely to develop Roman trade interests there, perhaps because Alexandros already had established his own agents in that region.³⁷ Another famous Palmyrene businessman, Soados, was honoured by the city of Palmyra for his frequent interventions to protect caravans against roaming nomadic tribes, but in addition he frequently received gratulatory letters from successive provincial governors and even the Roman emperors themselves. In an act of reciprocity, Soados founded a temple for the Roman emperors in

Vologesias, even though the city was located in Parthian territory.³⁸ This dedication further confirms that profits from trade and taxation could outweigh strictly political considerations.

When moving beyond the imperial frontiers to the Arabian and Indian regions, the impact of a Greco-Roman shared mental model on interaction must gradually have declined, if only because the formal governmental institutions no longer supported a shared mental and cultural framework. The absence of empires monopolising political and military power, necessary to enforce a new mental model of behaviour, therefore resulted in a predominance of informal institutions, as will be shown below.³⁹ Nevertheless, it seems that in Roman imperial times formal institutions were not completely lacking.

The long arm of Rome: force and friendship

Before turning to the informal institutions developed by individual merchants, we should consider the deliberate attempts of the Roman government at protecting and facilitating cross-cultural exchange outside the empire itself. Evidence for long-term political or military interference in southern Arabia and India is particularly scarce, and not, I believe, because the relevant sources have not come down to us, but rather because Rome's direct intervention was indeed limited. As already argued above, imperialism has its limits: the costs of forcefully changing other peoples' mental models and permanently monitoring the newly imposed belief system are not worth the benefits. In the cross-cultural trade with Arabia and India, Rome did what Rome did best, employing military power to increase security and stimulating exchange from a distance, viz. through formal agreements. Both strategies will be considered in more detail below.

First, Rome was perfectly aware of the potential of military force in safeguarding trade routes beyond the frontiers. The famous expedition of Aelius Gallus to the south-Arabian kingdoms, which posed no threat or had no particular strategic importance, could have been motivated by the wish to control the production areas of aromatics. Even though considered a major failure from a political and strategic point of view, the mission nevertheless betrayed Rome's interest in the economic potential of the region.⁴⁰ Yet, as argued above, Rome quickly recognised that it would be too costly for the empire to control the area directly, organise the trade monopoly in aromatics or replace the know-how of middlemen already involved in this commerce.⁴¹ Rome therefore abstained from investing in political

supremacy, but continued to safeguard its interests in the Red Sea trade at arm's length. Two recently discovered early second-century inscriptions, for instance, document the presence of a Roman prefecture, soldiers, auxiliaries and military strongholds on the main island of the Farasan archipelago, located in the southern part of the Red Sea, some 1,000 km away from the nearest frontier zone.⁴² As the small island had no geo-political importance whatsoever, it seems that the establishment of a permanent occupation had been motivated by the need to interfere in the exchange through the Red Sea, in particular to offer protection to ships sailing to the Egyptian port-cities, where Rome would be able to levy high customs duties.⁴³ Settling Roman soldiers so far away from the empire was not so much a statement of intended conquest as of concern for commerce and above all the profits derived from taxation. The same purpose would also explain the supporting presence of a military fleet in the Red Sea.⁴⁴ Moreover, it has been suggested that Rome was not alone in recognising the central importance of securing safety and stability in the Red Sea region, but employed these stationary troops to cooperate actively with another empire that had major commercial interests in the area, viz. the African Aksumite empire, in order to restore peace along the Arabian coast line and safeguard the caravan and sea routes, at a moment when local Arabian kingdoms were waging war among themselves.⁴⁵ The tradition of providing support to other empires and kingdoms surrounding the Red Sea can be traced back to the mid-first century CE, when Rome and the Nabataean kingdom joined forces to combat piracy.⁴⁶

Second, and in addition to the military presence in the region, Rome tried to protect its commercial interests at a distance, through political agreements with local (and more remote) kingdoms.⁴⁷ The economic opportunities envisaged by these pacts had been stated most clearly by Caracalla, when sending an embassy to Parthia in order to propose peace and cooperation between the two empires through a marriage alliance, but to deceive and attack him. He wrote to the Parthian king: 'Since the Parthians produce spices and first-rate textiles, and the Romans metals and manufactured items, these goods would no longer be rare and thus smuggled by traders. On the contrary, when our empires would be united under a single supreme authority, both peoples would have access to all these goods and share them in common.'⁴⁸ Even though the subsequent betrayal and attack on the Parthian king suggests that Caracalla had conquest and political control in mind, rather than an alliance to stimulate

exchange, it is possible that Herodian's description echoes similar agreements with kingdoms and empires, which Rome (as far as we know) initially did not intend to conquer and subdue. For these regions, the most common agreement was one of friendship (*amicitia*).⁴⁹ These treaties usually entailed a mutual agreement to suppress piracy, permission to engage in local commerce and protection of personal and property rights. The settlement with the Nabataeans, for instance, seems to have granted all Romans visiting the kingdom or having settled there unlimited and impartial access to local jurisdiction.⁴⁹ Considering the presence of several Nabataean trading communities in Italy, it is likely that the treaty foresaw a reciprocal protection and allowed Nabataeans access to similar rights in the western Mediterranean.⁵⁰ Moving from the Red Sea to more distant regions, the embassies sent to Rome by the rulers of India and Sri Lanka may be interpreted in the same way, particularly because their prime motive, according to Suetonius, was the quest for friendship with Rome.⁵¹ Even though we lack any detail on the actual discussions during these embassies or the content of any agreements made, the notion of reciprocal friendship at least suggests the possibility of formal treaties designed to offer mutual protection of economic interests. A possible argument in favour of this interpretation is the protection offered by the Indians to 'Greek' ships sailing in the vicinity of the city of Calliene, which had been captured by a certain Sandares, thereby obstructing the free passage to Indian ports.⁵² The ships were taken under guard to the harbour of Barygaza, where exchange could continue. The initiative to safeguard the routes to the Indian harbours could obviously have been taken by Indian rulers without a treaty with Rome forcing them to do so, but nevertheless the obligation to protect western merchants would perfectly fit this kind of friendship agreement.

The power of belief and comfort: individual merchants, culture and religion

With formal stimulating factors present but only supporting exchange at a distance, business people engaged in this trade were mostly forced to rely on informal institutions. In this section, I discuss several strategies employed by Roman merchants in order to bridge the mental gap separating them from local entrepreneurs and hence facilitate commercial exchange. I will focus on the presence of Mediterranean culture in India and its role as a general mediator, a

common ground from where communication could start; the importance of meeting places along trade routes, where merchants of different ethnicities found an opportunity to start negotiations and reduce cultural differences; and finally, the most advanced solution to the clash of belief systems, viz. the settlement and integration of trade diasporas in foreign countries.

Mediterranean culture as a bridge between mental models

Ever since the conquests of Alexander, but also through the activity of commercial middlemen such as the Nabataean and Palmyrene peoples who were acting as cultural and economic brokers between the West and the East (see above), the Arabian and Indian regions had been exposed to the influence of Mediterranean (i.e. Hellenistic) artefacts and ideas.⁵³ It should indeed be stressed that Roman commerce not only brought tangible high-value merchandise to India, but also stimulated the import of Mediterranean culture and beliefs.⁵⁴ An import conduit for the transmission of knowledge and ideas, in addition to the cross-cultural contacts for the purpose of trade, was the importation of slave musicians and girls destined to become concubines to Indian elites. This presence of western, highly trained elite slaves at Indian courts who were able to introduce Mediterranean culture to the Indian elite, even found its way into Sanskrit drama, as it mentions Greek characters attending the palaces of Indian kings.⁵⁵ This spread of artistic motives, cultural ideas and belief systems must to some extent have facilitated the cross-cultural interaction between local rulers and Roman merchants, as the gap between otherwise widely differing cultures could be bridged more easily through some cultural 'common ground' (no matter how limited) shared by West and East. This is not the place to discuss at great length all the various instances of cultural syncretism between India and the West.⁵⁶ Two aspects of this cultural interaction are however worth mentioning, as they helped to mitigate the direct confrontation of differing mental models. First, contact zones showing intensive exchange of belief systems and cultural expression usually coincide with major commercial nodes and emporia.⁵⁷ The development of a certain cultural *koinè* provides merchants of different origins with common ground at the start, on which further communication and interaction can rest. Second, among all sorts of cultural blends, I only mention those which at least must have been able to facilitate economic interaction, viz. the presence of recognisable financial instruments

(coins) and artistic expressions (sculpture and ceramics) supporting exchange and the integration of resident foreigners in Indian society. This is obviously not to say that every foreign merchant arriving in one of India's ports would immediately be confronted with or start looking for these cultural blends and religious hubs mentioned below. The central argument is that cultural and religious crossovers could provide merchants in a low-trust environment with a comfortable middle ground, a set of common experiences from where to start negotiations.

First, Indian coins frequently show legends in Greek, suggesting the apparent survival of the language next to Prakrit and Sanskrit and making it easier for foreigners to assess their value.⁵⁸ Moreover, Indian coinage must have become even more familiar to resident aliens when the Kushan king Vima extended his power into northern India and introduced a new gold coinage, the weight and portraiture of which closely resembled that of the Roman *aureus*. The apparently deliberate choice to produce imitations of the Roman *aurei* must have been motivated by the wide circulation of these coins and the trust merchants placed in them.⁵⁹ Particularly in large-scale transactions, when considerable sums of money were changing hands, Roman *aurei* proved to be a quite convenient cash instrument.⁶⁰ Finally, the ruler Huvishka minted a coin showing the image of the goddess Roma, accompanied by the letters RIOM. This deliberate connection to Roman power may hint at an agreement of friendship (see above), though other evidence is lacking. Similar imitations of Roman coinage have also been discovered in Sri Lanka.⁶¹ Taken together, these features of local coinage imitating the Roman currency system must have made foreign merchants feel more 'at home' when engaging in commercial transactions.

Second, the development of several art forms, from monumental sculpture to everyday objects, as a mixture of local and Greco-Roman styles further reduced the distance between the Indian and Mediterranean mental models. This syncretism was the result of Hellenistic influences from the Seleucid and Bactrian empires, on the one hand, and the import of Mediterranean art objects to India on the other.⁶² The explicit blend of various artistic traditions offers a good example of how repeated and intense interaction of mental models results in mutual adaption of recognisable art forms, providing visitors with some level of familiarity and comfort even when travelling through regions far away from home. Mediterranean artisans themselves may even have travelled and settled in India to produce

Greco-Roman art forms on the spot. Early Christian tradition, for instance, relates how the apostle Thomas ended up in India and made a living as a carpenter because he could use his skills in the construction of a royal palace. Tamil poetry equally mentions the remarkable skills of Roman artisans.⁶³ A few examples of this cultural blend may suffice. The most famous result of merging Mediterranean and Indian art traditions is the Buddhist Gandhara art, developed in northern India from the second century BCE onwards. The style drew heavily upon classical Greco-Roman art motifs, depicting Buddha with features closely resembling those of Apollo and clad in garments of a style often seen on statues of Roman emperors. Mediterranean deities and demi-gods were also included, despite the art forms still retaining the expression of Buddhist beliefs. Nevertheless, Gandhara art is likely to have played a role facilitating cross-cultural exchange, particularly because, as will be shown below, Greco-Roman merchants resident in India sometimes converted to Buddhism, a process no doubt supported by the easily recognisable Mediterranean influence on the Gandhara style.⁶⁴ On a more mundane level, cross-cultural contacts also had an impact on local material culture and the production of ceramic wares. The famous Indian Rouletted Ware (IRW) is a case in point. Although initially considered imported foreign wares because of their close resemblance to Mediterranean ceramics, there is now a general consensus that IRW was produced locally, even though the technique of 'rouletting' seems to have been imported from the Hellenistic Mediterranean.⁶⁵ Magee recently stated that the deliberate choice of foreign decorative motives, the wide circulation of IRW and the concentration of this type of ceramics in coastal cities suggest that the production of IRW was specifically aimed at consumption by a community of maritime merchants operating on multicultural trade routes. His conclusion deserves quoting in full:

Contact with the Mediterranean, however, brought about changes in material culture production, at least at maritime sites and/or sites that were heavily involved with trade. In this paper we have hypothesised that the growing power of a new maritime merchant class led to attached production of a new elite ceramic, Indian Rouletted Ware. Although produced locally, this new pottery was decorated in a fashion that was deliberately foreign and thus referential to the importance of maritime trade as the economic basis for new social divisions within ancient south Asian society.⁶⁶

The result of this process was the development of a syncretic form of ceramics circulating along the trade routes to India. The combination of Indian indigenous ceramic wares decorated in 'Mediterranean-style'

offered some level of recognition among both groups and may have been able to facilitate cross-cultural communication. Moreover, the presence of syncretic ceramic wares in commercial hubs, combining the cultural traditions of various peoples engaging in trade, has also been traced in the Arabian world, where imitations of Roman *sigillata* were being produced.⁶⁷ Whether or not deliberately aimed at smoothing cross-cultural contacts, the presence of these wares provided local and foreign individuals with familiar objects, offering a recognisable cultural framework in an essentially alien environment.

Religious hotspots and other meeting places

I now turn to cross-cultural interaction in meeting places, outside the major commercial hubs, where merchants were likely to meet and enjoy each other's company. These locations may simply have provided an opportunity for socialising, but also, in the case of shrines along trading routes, for expressing a shared, transcultural religion. Whatever the nature of the interaction, these places served a common purpose; in order to identify and remedy institutional voids limiting the opportunities for cross-cultural exchange, frequent interaction and communication are required, not only at the locations where commercial exchange takes place, but also on more 'neutral' territory which merchants irrespective of their intentions are likely to visit. These meeting places are usually located along highly frequented trade and transport routes and provide certain advantages to all merchants alike, regardless of their cultural or religious background. The result again was a progressive bridging of gaps between different cultures.

A good example of these neutral meeting places are the rock shelters in the Wadi Menih, situated along the route from Berenice to Coptos and providing a resting place in the shade for people travelling through the desert from the Red Sea coast to the Nile. Individuals of different nations apparently felt the need to leave their mark in these shelters, and several inscriptions from the early imperial era show that merchants from various regions recorded their presence. The texts from Wadi Menih include Latin, Greek and Nabataean graffiti, among them the famous inscriptions of Numisius Eros, who was on his way back from India (*ex India rediens*), and Lysas, slave of Annius Plocamus, who had major business interests in India and Sri Lanka.⁶⁸ Another example of these more neutral places are locations supplying provisions and fresh water to merchants, without however being

major commercial hubs. The *Periplus*, for instance, mentions a small harbour called *Ocelis*, ‘not so much an emporium, but rather an anchorage and watering place for sailors.’ As the *Periplus* explicitly states that *Ocelis* was the first place for merchants travelling on this route to stop, it seems likely that this was the main place where shippers regularly met and found an opportunity for informal contacts.⁶⁹

Apart from these neutral meeting places, merchants also frequently met in places considered sacred, where they found a common ground in a religion different from the belief systems they were accustomed to. The central role of religion in business will be explored in more detail below, when I discuss the presence of temples to foreign gods built by trading diasporas. Here I focus on religious beliefs held by business people who each had their own ‘national’ religion, but also started to worship local deities along trading routes. Religious beliefs and cult practices shared by individuals with an otherwise different cultural background can stimulate trustworthiness and reduce the risks of stealing or shirking contractual obligations. Shared religion created additional ties of connectivity among merchants from different regions, who then operated in a network supported by so-called multiplex relationships: the more ties of a nature other than strictly commercial (in this case religious) bridge the gaps between the merchants, the denser the network becomes and the more important the value of each individual’s reputation. With these ties in place, merchants had a supplementary reason to abstain from cheating.⁷⁰

The key example of this kind of religious hotspot is the cave shrine on Socotra, an island located some 300 km from the African coast and 400 km from the Arabian Peninsula, almost at the beginning of the Red Sea. According to the *Periplus*, the place was considered an intermediary station in the Romano-Indian trade and a mixed population of Greeks, Indians and Arabians were living on the island, ‘who have emigrated to carry on trade there.’⁷¹ One might already expect that this multicultural community, in which the individual merchant’s reputation was considered a valuable asset, would somehow act to discourage cheating, yet the local shrine seems to have created an additional monitoring mechanism corresponding to the model discussed above, even for foreign merchants not settled on the island (i.e. others as well as Greeks, Indians and Arabians). In the cave, numerous inscriptions have been found, written in Greek, Indian, Arabian, Ethiopic and Aramaic (Palmyrene) languages and

mainly dated to the second and third centuries.⁷² Most of these texts merely mention names of persons, indicating their presence and showing reverence for the gods of the cave. Some are accompanied by small depictions of boats, underscoring the commercial background of the worshippers. Moreover, one of the Greek inscriptions, in which a certain Septimius Paniscus expresses his devotion, explicitly adds his profession, viz. 'ship-owner' (*nauclerus*). As his *cognomen* Paniscus mainly occurs in Egypt, Septimius must have been a merchant engaged in the supply of Indian and Arabian goods to the Egyptian harbour cities of the Red Sea. The writing tablet on which a Palmyrene text was discovered may also identify the initiator of the dedication as a sailor, but the interpretation of the text is still far from certain.⁷³ What is most remarkable in all of the more eloquent inscriptions is that none of them mentions the gods of the cave by name. Yet, in a multilingual society where merchants from different nations share a common devotion to local gods, this silence makes perfect sense: it stresses the collective religious identity of the people visiting the cave and the multiplex ties connecting the local merchant community.

Finally, in addition to neutral and religious meeting places, some cities in the Indo-Roman trade can be considered 'ports of trade' in the sense developed in the seminal work of Polanyi.⁷⁴ Their role closely resembled that of Palmyra, with the important difference that ports of trade were politically independent from either of the trading partners (unlike Palmyra). Local inhabitants provided an opportunity for economic negotiation between two distant nations, an intermediate place to organise exchange. The description of Arabia Eudaemon offered by the *Periplus* is a good example: 'The city was called Eudaemon, because in the early days when ships were not sailing directly from India to Egypt [i.e. before the discovery of the monsoon winds], and when they did not venture to travel from Egypt to the ports across the ocean, they all gathered at this place, and the city received cargoes from both regions.'⁷⁵

Settlements and trade diasporas

Finally, the most compelling way to confront different mental models with each other is the so-called trade diaspora, or the settlement of foreign merchants in commercial hubs. Groups of business people moving to distant markets to organise trade on a local level occur throughout history, and Rome was no different. The rationale of

trading diasporas is obvious: prolonged or even permanent settlement allowed merchants to learn indigenous languages, customs and habits; to find a place in local commercial networks and gain access to financial institutions; and thus encourage trade between their colleagues travelling the trade routes and the host society.⁷⁶ That western merchants established trade diasporas in India is now commonly accepted, even though the evidence remains scanty. The presence of resident non-Indian merchants is first suggested by the import and consumption of western foodstuffs by foreign agents. The *Periplus* mentions grain as a commodity, because of its consumption in Indian port-cities by western settlers (instead of rice, as usually eaten by Indians).⁷⁷ Moreover, excavations at the site of Arikamedu in Tamil India have revealed fragments of olive oil and fish sauce amphorae, two major ingredients of the Mediterranean diet.⁷⁸ As we have no information on its consumption by Indians and the surviving evidence seems too small to consider the amphorae as valuable commodities, it is better to assume the oil and fish sauce had been shipped to provision western merchants who had settled in Poduke. Second, the Peutinger map famously shows a temple of Augustus built in the city of Muziris. Although the reliability of the map has been questioned on several occasions, and the temple in particular has been considered sheer fantasy motivated by political propaganda, its existence can neither be proven nor disproven.⁷⁹ In the context of trade diaspora, the presence of a religious building built by and serving the needs of foreign residents has frequently been documented. In the city of Rome, for instance, the diasporas of the Tyrians, Nabataeans and Palmyrenes all celebrated their native cults and had temples and shrines built.⁸⁰ Apart from providing the resident merchants with a place to worship their deities, temples also had a role to play in business transactions. As I have argued elsewhere, the absence of official enforcement mechanisms to guarantee compliance with the law and contractual agreements (a common feature of pre-modern markets) forced business people to search for alternatives in dealing with partners whose trustworthiness was difficult to check.⁸¹ One solution was the reliance on religious oaths, sworn before the statues of a merchant's own gods. In the case of perjury, a merchant then not only had to reckon with divine justice, but also with serious damage to his reputation, as the rumour would spread quickly that even a promise to his own gods had not prevented him from cheating. Against this background, the existence of a temple would make sense: it provided the foreign merchants and their local business partners

with the opportunity to establish a mechanism of reputational screening. A final indication of western trade diasporas can be found in a Tamil epic, which states explicitly that 'In different places at Puhar, the gaze of the observer is attracted by the residences of the *Yavanas* [i.e. Ionians and hence western settlers], whose prosperity is without limits. At the harbour, there are sailors from distant lands, but in all appearance they live as one community.'⁸² The final sentence seems to suggest that the foreign merchants were somehow living as a distinct community, separate from their Indian hosts. This feature, viz. physical segregation, is a recurring characteristic of trade diasporas.⁸³ Precisely because they had settled in a distant market in order to act as cross-cultural brokers, these residents somehow needed to preserve a significant part of their cultural identity. Complete integration into Indian society would not serve the purpose of their presence and would reduce their ability to act as go-betweens.

Nevertheless, some level of acculturation was required to allow cross-cultural brokerage. Again, the evidence to reconstruct the various strategies followed by the foreign settlers remains meagre, but some trajectories used by trading diasporas of later and better documented periods can be detected. First, it is possible that settlers tried to integrate in the local community through intermarriage. Especially in the case of long-term or even permanent settlement, starting a family provides both emotional comfort as well as an entry into the local community. Through their partners, they were able to gather more reliable information on goods, prices and reputations, but may also have gained access to local financial and credit institutions otherwise unavailable. Although we have no evidence of cross-cultural marriage in India, this strategy was practised and found effective in Antiquity, as Arabian merchants from Muza who settled in the African city of Rhapta married native women in order to learn local languages and become acquainted with indigenous customs.⁸⁴ Comparative research on trade diasporas confirms that intermarriage was a universal feature of business people going abroad.⁸⁵ Second, and in line with the previous conclusions about the central importance of religion in cross-cultural trade, we have evidence of western settlers converting to local belief systems and actively contributing to cult practices. Apart from personal convictions, converting to the local belief system may have been motivated by the wish to confirm one's solidarity with the host society, individual goodwill and trustworthiness.⁸⁶ Inscriptions discovered in the Buddhist monasteries of the western Deccan plateau mention donations by *Yavanas*.⁸⁷ These

cult places were often located in mountain passes connecting the coastal areas with the Indian hinterland and thus frequently used by merchants. The inscriptions record offerings and acts of devotion by new converts, some of whom appear to have been western settlers, as a few texts mention the presence in nearby cities of *Raumakas*, possibly the Prakrit rendition of *Romanus*, and one donor calls himself Theodorus Datiaputta.⁸⁸ This individual clearly illustrates the level of integration some resident merchants could attain, as they adopted indigenous names (perhaps a sign of cross-cultural marriage?), without however completely ignoring their own cultural background. The frequency with which western merchants converted to Buddhism obviously is impossible to determine, but it is worth mentioning that a small number of Severan Roman busts depict individuals with a hairstyle closely resembling that of Buddhist holy men. It has been suggested that these people may have adopted Buddhism during their stay in India and retained their new beliefs after their return to the West.⁸⁹ Moreover, a Gandhara sculpture showing the death of Buddha presents several foreign figures mourning, among them is one who – from his clothing and posture – must be Roman.⁹⁰ The artist apparently was sufficiently familiar with western residents converting to or participating in the rites of Buddhism to include them in the scene.

That Indian merchants who settled in (or at least frequently travelled through) the West adopted similar strategies is shown, first, by a Greek dedication to Pan found in Egypt on the road between Berenice and Edfu and made by an Indian, Sophon. The text, in which Sophon asks the god for a safe journey, follows the typical features of Greek dedicatory inscriptions and suggests this man may have been an Indian merchant intensely familiar with Greek language and characteristic phrases. A very similar dedication, this time in honour of Vespasian, Isis and Hera, was made in Coptos by an Arabian (but profoundly Hellenised) merchant from Aden.⁹¹ The level of acculturation attained by eastern merchants doing business in Egypt is further illustrated by the discovery in Myos Hormos of a short commercial account, written in Prakrit and listing various goods belonging to three Indians. What is remarkable is that the text had been written on an ostrakon, a technique very common in Egypt yet completely unknown in India.⁹²

Conclusion

In this chapter, I have argued that, despite the numerous differences in cultural background and belief systems among the people engaged in the trade between Rome, Arabia and India, merchants could frequently rely on either formal and deliberately created governmental institutions or informal institutions to reduce the distance between trading partners. Many of these facilitators are grounded in cultural syncretism, religion or ritualised relationships of friendship that neoclassical economic theory would try to exclude from economic interaction. Yet, that the creation of a new, shared mental model in the East rested on essentially non-economic aspects of human behaviour and perhaps fails to answer to the high standards of contemporary economic efficiency, does not matter much as, in the famous words of North: ‘Historical experience makes clear that efficient economic institutions are the exception.’⁹³ Despite these institutions being a suboptimal solution to the many institutional voids in cross-cultural exchange, they must nevertheless have been perceived as efficient ‘to some extent,’ although it must remain obscure to what extent exactly.

By way of summary, I have listed, in [Table 1.1](#) below, all the facilitators discussed in this chapter, their occurrence and aim in cross-cultural exchange. Two conclusions can be made. First, the model described in the first section predicted a predominance of informal institutions, as the rather small merchant communities would not benefit from the costly introduction and maintenance of formal institutions. This is confirmed by the wide variety of institutions related to religion and cultural expressions listed below. Second, the right-hand column identifies the voids the institutions tried to remedy. The most frequent problems appear to be: finding information on trading opportunities, assessing a business partner’s reliability, enforcing agreements and finding redress in case of non-compliance. This conclusion coincides with what general economic theory predicts; particularly in foreign and distant trading environments, the key to success is finding information and protection.⁹⁴

Table 1.1. Formal and informal institutions in cross-cultural trade.

<i>facilitator</i>	<i>region</i>	<i>formal/informal</i>	<i>answer to which problems or institutional voids?</i>
local people as intermediaries	Syria, Arabia	informal	'mental distance'
military force	Red Sea, Farasan Archipelago and southern Arabia	formal	general security; redress
friendship agreements	Nabataean Kingdom and Sabaeans; maybe Sri Lanka and India	formal	agreements; redress
coins	India	formal	transactions
art and common objects	India	informal	general integration
meeting places	Egypt, Arabia	informal	information; credibility; redress
shrines along trading routes	Red Sea (Socotra)	informal	information; credibility; redress
temples for foreign settlers	Italy, India	informal	information; credibility; redress
intermarriage	southeast Africa	informal	information; credibility; distribution; channels; transactions
cult places visited by foreign merchants	Egypt, India	informal	information; credibility; redress

Notes

1 For the question of economic rationalism in Antiquity and its place in the whole formalist-substantivist debate, see J. Andreau, "Présentation: vingt ans après *L'économie antique* de Moses I. Finley," *Annales* 50 (1995), 947–960 and the collection of articles on this subject in *Topoi* 12/13 (2005).

2 I deliberately include 'to a large extent', for scholars introducing culture, beliefs and mental models to economics in order to explain economic institutions and performance have sometimes been accused of developing an unrealistic model of human behaviour, in which individuals are only allowed to perform slavishly the roles their cognitive rules come up with. See S. Heydemann, "Institutions and Economic Performance: The Use and Abuse of Culture in New Institutional Economics," *Studies in Comparative International Development* 43(1) (2008), 27–52, for this discussion. Obviously, this is not the intention of the model presented here.

3 D. C. North, *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press, 1990); S. Rizzello and M. Turvani, "Institutions Meet Mind. The Way out of an Impasse," *Constitutional Political Economy* 11 (2000), 165–180; O. Budzinski, "Cognitive Rules, Institutions, and Competition," *Constitutional Political Economy* 14 (2003), 213–233.

4 See Figure 1.1.

5 A. Ben-Ner and L. Putterman, "Values and Institutions in Economic Analysis," in *Economics, Values, and Organization*, ed. A. Ben-Ner and L. Putterman (Cambridge: Cambridge University Press 1998), 3–69.

6 Ben-Ner and Putterman, "Values and Institutions."

7 W. B. Rouse and N. M. Morris, "On Looking into the Black Box: Prospects and Limits in the Search for Mental Models," *Psychological Bulletin* 100(3)

- (1986), 349–363; A. Denzau and D. C. North, “Shared Mental Models: Ideologies and Institutions,” *Kyklos* 47(1) (1994), 3–31; C. Mantzavinos, D. C. North and S. Shariq, “Learning, Institutions, and Economic Performance,” *Perspectives on Politics* 2(1) (2004), 75–84; N. Jones, H. Ross, T. Lynam, P. Perez and A. Leitch, “Mental Models: An Interdisciplinary Synthesis of Theory and Methods,” *Ecology and Society* 16 (1) (2011), 46.
- 8 North, *Institutional Change*, 3, and D. C. North, “Institutions,” *Journal of Economic Perspectives* 5(1) (1991), 97–112.
- 9 Jones et al., “Mental Models.” For a model of belief systems, intercultural contact and different modes of interaction in Antiquity, see C. Ulf, “Rethinking Cultural Contacts,” *Ancient West & East* 8 (2009), 81–132.
- 10 H. Hegmann, “Conventionalist Foundations for Collective Action in a Culturally Fragmented Setting,” Diskussionsschrift nr. 61: http://www.uni-hamburg.de/onTEAM/grafik/1112363973/DiskS_61.pdf (accessed 6 Sept. 2016); P. H. Werhane, “Exporting Mental Models. Global Capitalism in the 21st Century,” *Business Ethics Quarterly* 10(1) (2000), 353–362.
- 11 D. Richards, “Coordination and Shared Mental Models,” *American Journal of Political Science* 45(2) (2001), 259.
- 12 W. B. Swann and S. J. Read, “Self-verification Processes: How We Sustain Our Selfconceptions,” *Journal of Experimental Social Psychology* 35 (1981), 656–666; B. J. Loasby, “Institutional Stability and Change in Science and the Economy,” in *Rationality, Institutions and Economic Methodology*, ed. U. Mäki, B. Gustafsson and C. Knudson (London: Routledge, 1993), 203–221.
- 13 D. C. North, “Economic Performance Through Time,” *The American Economic Review* 84(3) (1994), 362.
- 14 North, “Economic Performance;” Richards, “Coordination;” Budzinski, “Cognitive Rules.”
- 15 A. Clark and A. Karmiloff-Smith, “The Cognizer’s Innards: A Psychological and Philosophical Perspective on the Development of Thought,” *Mind and Language* 8(4) (1993), 487–519; Mantzavinos, North and Shariq, “Learning.”
- 16 E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990), 30–54 and 185–213; Ben-Ner and Putterman, “Values and Institutions.”
- 17 B. Rothstein, “Trust, Social Dilemmas and Collective Memories,” *Journal of Theoretical Politics* 12(4) (2000), 477–501.
- 18 C. Dhanaraj and T. Khanna, “Transforming Mental Models on Emerging Markets,” *Academy of Management Learning and Education* 10(4) (2011), 684–701.
- 19 For the identity of the Greco-Roman traders sailing to Arabia and India and their connection to Italian merchant families, see F. De Romanis, *Cassia, cinnamomo, ossidiana. Uomini e merci tra Oceano Indiano e Mediterraneo* (Rome, 1996).
- 20 F. Millar, *The Roman Near East, 31 B.C.–A.D. 337* (Cambridge; London: Harvard University Press, 1993), 225.
- 21 Despite the many methodological questions and even irritations provoked by the word ‘Romanisation,’ I use it here simply to indicate the spread of certain aspects of the Roman way of life (in its broadest sense), which became accepted in originally non-Roman communities and eased intercultural interaction.

22 W. Broekaert, "The Economics of Culture. Shared Mental Models and Exchange in the Roman Business World," in *Antike Wirtschaft und ihre kulturelle Prägung* (2000 v. Chr. – 500 n. Chr.), ed. K. Ruffing and K. Dross-Krüpe (Wiesbaden, forthcoming).

23 IGLSyr 21.4.138.

24 Imperialism and Romanisation: G. Woolf, *Becoming Roman: The Origins of Provincial Civilization in Gaul* (Cambridge: Cambridge University Press, 1998); D. J. Mattingly, *Imperialism, Power, and Identity: Experiencing the Roman Empire* (Princeton: Princeton University Press, 2011) and idem, "Deconstructing the Discourses of Roman Imperialism," *Historically Speaking* 12(1) (2011), 28–29. Economic consequences of state formation: G. Tate, "The Syrian Countryside during the Roman Era," in *The Early Roman Empire in the East*, ed. S. E. Alcock (Oxford: PUBLISHER? 1997), 55–71 (in particular for Syria) and W. Scheidel, "A Comparative Perspective on the Determinants of the Scale and Productivity of Maritime Trade in the Roman Mediterranean," in *Maritime Technology and the Ancient Economy: Ship-Design and Navigation*, ed. W. V. Harris (Portsmouth, RI: Journal of Roman Archaeology, 2011), 21–37. Dynamics of imperialism in the Indian Ocean trade: J. Thorley, "The Development of Trade between the Roman Empire and the East under Augustus," *Greece & Rome* 16(2) (1969), 209–223; S. E. Sidebotham, *Roman Economic Policy in the Erythra Thalassa* (Leiden: Brill, 1986); G. K. Young, *Rome's Eastern Trade: International Commerce and Imperial Policy, 31 BC–AD 305* (London; New York: Routledge, 2001); M. P. Fitzpatrick, "Provincializing Rome: The Indian Ocean Trade Network and Roman Imperialism," *Journal of World History* 22(1) (2011), 27–54. For the impact of the *pax Romana* on Rome's trade with the Arabian Peninsula, see B. Isaac, "Bandits in Judaea and Arabia," *Harvard Studies in Classical Philology* 88 (1984), 171–203 and Strabo 16.2.20, who describes how bandits robbed merchants from Arabia Felix between Bostra and Damascus, until Rome increased security in southern Syria. For the Roman army patrolling through the desert and improving roads and commercial infrastructure along the caravan routes in Egypt, see R. McLaughlin, *Rome and the Distant East. Trade Routes to the Ancient Lands of Arabia, India and China* (London; New York, 2010), 27–28 and S. E. Sidebotham, *Berenike and the Ancient Maritime Spice Route* (Berkeley, CA; Los Angeles, CA; London: University of California Press, 2011), 150–156.

25 Millar, *Roman Near East*, 445–452; idem, "Looking East from the Classical World: Colonialism, Culture, and Trade from Alexander the Great to Shapur I," *The International History Review* 20(3) (1998), 507–531; M. Sartre, *The Middle East under Rome* (Cambridge, MA: Harvard University Press, 2005), 5–30 and 152–183.

26 The resistance by Jewish communities in Judaea and the subsequent revolt by Bar Kochba in 132 CE obviously are a notorious exception. For Rome's reaction and the repercussions on the integration of Roman, Greek and Jewish culture afterwards, see N. Andrade, "Ambiguity, Violence, and Community in the Cities of Judaea and Syria," *Historia* 59(3) (2010), 342–370, with further references.

27 Philo, *Leg. ad Gaium* 147; idem, *Quod omnis probus liber sit* 74–75, for barbarian regions. For the interaction between Greco-Roman and Near Eastern culture in Syria, see Sartre, *Middle East*, 274–296; J. Hoffmann-Salz,

Die wirtschaftlichen Auswirkungen der römischen Eroberung. Vergleichende Untersuchung in den Provinzen Hispania Tarraconensis, Africa Proconsularis und Syria (Stuttgart: Franz Steiner Verlag, 2011), 294–429, and N. Andrade, *Syrian Identity in the Greco-Roman World. Greek Culture in the Roman World* (Cambridge: Cambridge University Press, 2013). Andrade aptly describes the consequences of Rome's manipulation of Greek culture and institutions: "Through Rome's patronage and oversight, Greek councils and their civic communities interwove and reconstituted existing cultural idioms in ways that generated new meanings, modes of performance, and forms of culture. Individuals and communities in the Syrian province(s) could integrate countless cultural traditions into overlapping categories possessing points of sameness and difference." (p. 132).

28 Plut. *Ant.* 46.2 and Andrade, *Syrian Identity*, 148–150.

29 See H. Cotton, "The Guardianship of Jesus Son of Babatha: Roman and Local Law in the Province of Arabia," *Journal of Roman Studies* 83 (1993), 94–108 and most recently J. G. Oudshoorn, *The Relationship between Roman and Local Law in the Babatha and Salome Komaise Archives: General Analysis and Three Case Studies on Law of Succession, Guardianship and Marriage* (Leiden; Boston, MA: Brill, 2007).

30 Michael Sommer, *Roms orientalische Steppengrenze. Palmyra-Edessa-Dura-Europos-Hatra. Eine Kulturgeschichte von Pompeius bis Diocletian* (Stuttgart: Frank Steiner Verlag, 2005); Andrade, *Syrian Identity*, 177–209. For the creation of a new common architectural language connecting Greco-Roman tradition and oriental Parthian forms in Palmyra, see A. Schmidt-Colinet, "Aspects of 'Romanisation': The Tomb Architecture at Palmyra and Its Decoration," in Alcock, *The Early Roman Empire in the East*, 157–177.

31 D. T. Potts, "The Roman Relationship with the *Persicus sinus* from the Rise of Spasinou Charax (127 BC) to the Reign of Shapur II (309–379)," in Alcock, *The Early Roman Empire in the East*, 97.

32 K. Ruffing, "Wege in den Osten. Die Routen des römischen Süd- und Osthandels (1. bis 2. Jahrhundert n. Chr.)," in *Zu Wasser und zu Land. Verkehrswege in der antiken Welt. Stuttgarter Kolloquium zur historischen Geographie des Altertums* 7, ed. E. Olshausen and H. Sonnabend (Stuttgart: Franz Steiner Verlag 2002), 360–375.

33 Italy: C.-G. Schwentzel, "La présence des Nabatéens en Italie (Ier siècle av.-IIe siècle apr. J.-C.)," in *Étrangers dans la cité romaine. Actes du colloque de Valenciennes (octobre 2005)*, ed. R. Compatangelo-Soussignan and C.-G. Schwentzel (Rennes: Presses universitaires de Rennes, 2006), 145–153. Egypt: E. Littmann and D. Meredith, "Nabataean Inscriptions from Egypt," *Bulletin of the School of Oriental and African Studies* 15(1) (1953), 1–28. See also McLaughlin, *Rome and the Distant East*, 62–65.

34 R. Drexhage, *Untersuchungen zum römischen Osthandel* (Bonn, 1988); Millar, *Roman Near East*, 322–323 and 332; Sartre, *Middle East*, 269. Palmyrene merchants in Phorath: J. Tubasch, "Mani und der palmyrenische Kaufmann aus Forat," *Zeitschrift für Papyrologie und Epigraphik* 106 (1995), 165–169. Palmyrene shippers in Coptos: J. Bingen, "Une dédicace de marchands palmyréniens à Coptos," *Chronique d'Égypte* 59 (1984), 355–358 and McLaughlin, *Rome and the Distant East*, 104–106. For Rome, see below.

35 M. Gawlikowski, "Palmyre et l'Euphrate," *Syria* 60(1–2) (1983), 53–68

and PAT 1374. For Palmyrene merchants importing Indian merchandise, see also Appian *Civ.* 5.9. The famous Palmyrene caravan protector Soados may also have held office in the city of Vologesias, as he was honoured for his position of authority there (*dynasteia*) in PAT 1062.

36 Inv. 10.96 and IEOG 413, both dated to 157 CE.

37 Potts, "Roman Relationship," 95.

38 AE 1931, 54.

39 Borrowing the terminology of the model for cultural interaction developed by Ulf, "Rethinking," the trading zone connecting the Roman world, Arabia and India can be considered an amalgam of open contact and intense contact zones. On open contact zones: "Such spaces arise whenever the producers and recipients of a given object, idea or skill do not come into direct contact with one another; or rather, when such contact does not involve large groups of people from either side. In such cases, neither side can bring to bear the means of exercising power discussed above." (Ulf, "Rethinking," 93). On zones of intense contact: "Zones of intense contact, or closed contact zones, are the opposite of open contact zones in that their most important characteristic is direct contact between producers and recipients. In practice this can take different forms: one side may exert more or less total dominance over the other, but we also know of such contact zones in which cultural exchange happens more or less freely in all directions." (ibid., 95). Focusing on the trade with India, both modes of interaction occur, depending on whether Roman merchants used Arabian middlemen to purchase Indian goods or sailed directly to the Indian harbors. K. Ruffing, "Das Mare Erythraeum als Kontaktzone in der Römischen Kaiserzeit," in *Kulturkontakte in antiken Welten: vom Denkmodell zum Fallbeispiel. Proceedings des internationalen Kolloquiums aus Anlass des 60. Geburtstages von Christoph Ulf, Innsbruck, 26. bis 30. Januar 2009*, ed. R. Rollinger and K. Schnegg (Leuven; Paris; Walpole, MA: Peeters, 2014), 181–192, applies the model to the ancient Red Sea.

40 S. E. Sidebotham, "Aelius Gallus and Arabia," *Latomus* 45 (1986), 590–602; Sartre, *Middle East*, 66–68.

41 R. Simon, "Aelius Gallus' Campaign and the Arab Trade in the Augustan Age," *Acta Orientalia Academiae Scientiarum Hungaricae* 55(4) (2002), 309–318. In the same vein, D. Whittaker, "Le commerce romain avec l'Inde et la prise de décision économique," *Topoi* 10 (2000), 267–288 for the role of the Roman government in the trade with India.

42 AE 2004, 1643 and AE 2005, 1640. See F. Villeneuve, C. Phillips and W. Facey, "Une inscription latine de l'archipel Farasān (sud de la mer Rouge) et son context archéologique et historique," *Arabia* 2 (2004), 143–192.

43 Rome levied a 25% *ad valorem* tax (the so-called *tetarte*) on goods imported from regions beyond the frontier. See F. De Romanis, "Commercio, metrologia, fiscalità. Su p. Vindob. G40.822 verso," *Mélanges de l'École française de Rome. Antiquité* 110(1) (1998), 11–60.

44 See Festus Brev. 14 and Eutrop. Brev. 8.3.2 with discussion by K. Ruffing, "Militärische und zivile Seefahrt im Roten Meer. Einige Überlegungen zu SEG VIII 703 = SB V 7539 = AE 1930, 53," in *In omni historia curiosus. Studien zur Geschichte von der Antike bis zur Neuzeit. Festschrift für Helmuth Schneider zum 65. Geburtstag*, ed. B. Onken and D. Rohde (Wiesbaden, 2011), 23–30,

and M. Speidel, “Fernhandel und Freundschaft. Zu Formen römischer Wirtschaftsförderung am Roten Meer und am Indischen Ozean,” in *Akten des Symposiums „Römisches Reich und Europäische Union,”* ed. A. Jördens and C. Schönberger, https://www.academia.edu/7784302/Fernhandel_und_Freundschaft._Zu_Roms_amici_an_den_Handelsrouten_nach_S%C3%BCdarabien_und_Indien_im_Druck_.

45 M. Bukharin, “Roman Penetration into the Southern Red Sea and the Aksumite Campaign in West Arabia (Reconsideration of the Latin Dedicatory Inscription from the Farasan Archipelago). Part I,” *Journal of Indian Ocean Archaeology* 6–7 (2009–2010), 86–132. See also OGIS 199 for a local ruler from Adulis waging war against tribes along the Arabian shores to protect commerce in the region.

46 *PME* 20.

47 Speidel, “Fernhandel,” with a detailed discussion of the treaties and further references. See also *PME* 23 and Sartre, *Middle East*, 70–74.

48 Herodian 4.10.4.

49 Strabo 16.4.21.

50 See Schwentzel, “La présence des Nabatéens” for the settlements of Nabataeans in Italy.

51 Suetonius *Aug.* 21.3. Dio 54.9.8 similarly refers to friendship between Rome and India. For the many delegations attested, see McLaughlin, *Rome and the Distant East*, 111–120, with further references.

52 *PME* 52.

53 R. Thapar, *Early India: From the Origins to AD 1300* (Berkeley, CA: University of California Press, 2002), 253–256; Sartre, *Middle East*, 268–269; McLaughlin, *Rome and the Distant East*, 45.

54 Sidebotham, *Berenike*, 3, speaks of “abstract commodities.” See also *ibid.* 254–258 for cultural exchange between the Mediterranean and India.

55 McLaughlin, *Rome and the Distant East*, 45.

56 See most recently G. Parker, *The Making of Roman India* (Cambridge: Cambridge University Press, 2008) on the contacts between Rome and India.

57 Ruffing, “Das Mare Erythraeum.”

58 J. Thorley, “The Roman Empire and the Kushans,” *Greece & Rome* 26(2) (1979), 181–190.

59 It is perhaps this trust in the high-quality Roman coinage that caused Indians to accept the loanword *denarius* in their language. See Sidebotham, *Berenike*, 255.

60 F. De Romanis, “Aurei after the Trade: Western Taxes and Eastern Gifts,” in *Dal denarius al dinar. L’Oriente e la moneta romana. Atti dell’Incontro di studio, Roma, 16–18 settembre 2004*, ed. F. De Romanis and S. Sorda (Rome: Istituto Italiano di Numismatica, 2006), 54–82.

61 Sidebotham, *Berenike*, 193.

62 I focus on the spread of Mediterranean art forms in the Indian world not because these should be considered superior to local production but because, after the conquest by Alexander, Greek culture easily found a way into Indian art expressions. Mediterranean culture seems to have been more resilient to Indian influences (but see below) and only a few Indian sculptures have been discovered in the West. Nevertheless, for an ivory statuette of Indian origin in Pompeii, see G. Parker, “Ex Oriente luxuria: Indian Commodities and Roman

Experience,” *Journal of the Economic and Social History of the Orient* 45(1) (2002), 53–54.

63 Syriac Acts of Thomas, 1–3 (ed. A. F. J. Klijn, *The Acts of Thomas: Introduction - Text - Commentary*. Supplements to Novum Testamentum. Leiden: Brill, 2003.). See McLaughlin, *Rome and the Distant East*, 30, with references.

64 See the contributions in A. Kouremenos, S. Chandrasekaran and R. Rossi, *From Pella to Gandhara: Hybridisation and Identity in the Art and Architecture of the Hellenistic East* (Oxford: Archaeopress, 2011) and L. Stančo, *Greek Gods in the East. Hellenistic Iconographic Schemes in Central Asia* (Prague: Karolinum Press, 2012), who offers a catalogue of Mediterranean mythological figures and creatures represented in Gandhara art.

65 V. Begley, “Arikamedu Reconsidered,” *American Journal of Archaeology* 87(4) (1983), 461–481, and “Rouletted Ware at Arikamedu: A New Approach,” *American Journal of Archaeology* 92(3) (1988), 427–440; J.-F. Salles, “Adaptation culturelle des céramiques hellénistiques? Importations et imitations de produits occidentaux en Inde,” in *Céramiques hellénistiques et romaines, productions et diffusion en Méditerranée orientale (Chypre, Égypte et côte syro-palestinienne)*. Actes du colloque tenu à la Maison de l’Orient méditerranéen Jean Pouilloux du 2 au 4 mars 2000, ed. F. Blondé, P. Ballet and J.-F. Salles (Lyon: Maison de l’Orient et de la Méditerranée Jean Pouilloux, 2002), 189–212. It is safer to date the technological transfer to the Hellenistic era rather than the early Roman Imperial period, as early forms of IRW predate the period of India’s most intense contacts with Rome: see R. Tomber, *Indo-Roman Trade: From Pots to Pepper* (London: Duckworth, 2008), 44–46. H. Schenk, “The Dating and Historical Value of Rouletted Ware,” *Zeitschrift für Archäologie Außereuropäischer Kulturen* 1 (2006), 123–152, recently argued that the fabric analysis of IRW points to a production site in northern India and consequently questioned any direct influence of Mediterranean production techniques. P. Magee, “Revisiting Indian Rouletted Ware and the Impact of Indian Ocean Trade in Early Historic South Asia,” *Antiquity* 84 (2010), 1043–1054, however presents more consistent geochemical analysis, suggesting a major production site in Sri Lanka and hence closer to the southern part of India, where the most intense interaction with the Mediterranean world and its cultural heritage took place. Begley, “Arikamedu Reconsidered,” 469–470 also lists other western influence on local ceramics production.

66 Magee, “Revisiting,” 1053.

67 Potts, “Roman Relationship”; Sunil Gupta, “Frankincense in the ‘Triangular’ Indo-Arabian-Roman Aromatics Trade,” in *Food for the Gods: New Light on the Ancient Incense Trade*, ed. D. Peacock and D. Williams (Oxford, 2007), 112–121.

68 Greek and Latin texts: D. Meredith, “Inscriptions from the Berenice Road,” *Chronique d’Égypte* 29 (1954), 281–287; F. De Romanis, “Graffiti greci da Wadi Menih el-Her. Un Vestorius tra Coptos e Berenice,” *Topoi* 6(2) (1996), 731–745 and idem, *Cassia*, 203–217. Nabataean inscriptions: E. Littmann and D. Meredith, “Nabataean Inscriptions from Egypt—II,” *Bulletin of the School of Oriental and African Studies* 16(2) (1954), 211–246. For Annianus Plocamus, see G. Camodeca, “La gens Annia puteolana in età giulio-claudia; potere politico

e interessi commerciali,” *Puteoli* 3 (1979), 17–34; D. Rathbone, “The Financing of Maritime Commerce in the Roman Empire, I–II AD,” in *Credito e moneta nel mondo romano. Atti degli incontri capresi di storia dell’economia antica (Capri 12–14 ottobre 2000)*, ed. E. Lo Cascio (Bari, 2003), 221–222, and Sidebotham, *Berenike*, 71–72.

69 *PME* 25. See M. Bukharin, “The Coastal Arabia and the Adjacent Sea-Basins in the Periplus of the Erythrean Sea (Trade, Geography and Navigation),” *Topoi* Suppl. 11 (2012), 177–236, 187–190, for *Ocelis*.

70 For the theory of multiplex relationships, see J. S. Coleman, “Social Capital in the Creation of Human Capital,” *American Journal of Sociology* 94 (Supplement) (1988), S95–S120. Sebouh Aslanian, “Social Capital, ‘Trust’ and the Role of Networks in Sulfan Trade: Informal and Semi-formal Institutions at Work,” *Journal of Global History* 1 (2006), 383–402, offers a good application of this concept in early-modern Armenian trade.

71 *PME* 30–31. Note that, according to Pliny NH 6.104, the city of Muza was not visited en route to India. Socotra must have been the major intermediary meeting place for merchants from the Arabian Peninsula and their Greek and Indian colleagues. For merchandise originating from Socotra, see Caroline Singer, “The Incense Kingdoms of Yemen: An Outline History of the South Arabian Incense Trade,” in *Food for the Gods: New Light on the Ancient Incense Trade*, ed. D. Peacock and D. Williams (Oxford, 2007), 4–27.

72 Mikhail Bukharin and Ingo Strauch, “Indian Inscriptions from the Cave Hoq on Suquārā,” *Annali dell’ Istituto Universitario Orientale* 64 (2004), 121–138; M. Bukharin, “The Greek Inscriptions at Hoq,” in *Foreign Sailors on Socotra: The Inscriptions and Drawings from the Cave Hoq*, ed. I. Strauch (Bremen: Hempen, 2012), 493–500, and idem, “Greeks on Socotra. Commercial Contacts and Early Christian Missions,” *ibid.*, 501–539.

73 H. Dridi, “Indiens et Proche-Orientaux dans une grotte de Suqutra (Yémen),” *Journal asiatique* 290 (2002), 565–610; C. Robin and M. Gorea, “Les vestiges antiques de la grotte de Hôq (Suqutra, Yémen) (note d’information),” *Comptes rendus des séances de l’Académie des Inscriptions et Belles-Lettres* 146(2) (2002), 409–445; and M. Gorea, “Palmyra and Socotra,” in *Foreign Sailors on Socotra: The Inscriptions and Drawings from the Cave Hoq*, ed. I. Strauch (Bremen: Hempen, 2012), 447–487.

74 K. Polanyi, “Ports of Trade in Early Societies,” *The Journal of Economic History* 23(1) (1963), 30–45; G. Dalton, “Karl Polanyi’s Analysis of Long-Distance Trade and His Wider Paradigm,” in *Ancient Civilization and Trade*, ed. C. C. Lamberg-Karlovsky and J. A. Sabloff (Albuquerque, NM: University of New Mexico Press, 1975), 63–132. For an application of the concept to exchange in Antiquity, see J. Maucourant and L. Graslin, “Le port de commerce: un concept en débat,” *Topoi* 12–13 (2005), 216–257.

75 *PME* 26. See L. Casson, “South Arabia’s Maritime Trade in the First Century A.D.,” in *L’Arabie préislamique et son environnement historique et culturel. Actes du colloque de Strasbourg (24–27 juin 1987)*, ed. T. Fahd (Leiden, 1989), 187–194.

76 P. Curtin, *Cross-Cultural Trade in World History* (Cambridge: Cambridge University Press, 1984), 2.

77 *PME* 56.

78 Olive oil could also be used as fuel for the beautiful ‘Yavana lamps’ as

- mentioned in Tamil poetry. See McLaughlin, *Rome and the Distant East*, 56.
- 79 See B. Fauconnier, "Graeco-Roman Merchants in the Indian Ocean: Revealing a Multicultural Trade," *Topoi* Suppl. 11 (2012), 75–109, for a recent discussion and references to previous work. That Indian society did not prevent foreign settlers retaining and practising their own faith is also indicated by the presence of Christian communities in India, probably from the late second and early third centuries onwards. See Sidebotham, *Berenike*, 256–257, with further references.
- 80 On the religion of trade diasporas in Rome, see T. Terpstra, *Trading Communities in the Roman World: A Micro-Economic and Institutional Perspective* (Leiden and Boston: Brill, 2013). Tyrians: CIL 10.1601 = IG 14.831. Nabataeans: Vincent Tran Tam Tinh, *Le culte des divinités orientales en Campanie en dehors de Pompéi, de Stabies et d'Herculanum* (Leiden, 1972), 127–131; IGUR 1.16 (?). Palmyrenes: IGUR 1.117–123; CIL 6.710.
- 81 W. Broekaert, "Lucius Lawless. Conflicts, Contract Enforcement and Business Communities in the Archive of the Sulpicii," in *Structure and Scale of Roman Urban Economies: The Case of Pompeii*, ed. Andrew Wilson and Miko Flohr (Oxford, forthcoming).
- 82 Shilappadikaram 5.10 (translation from McLaughlin, *Rome and the Distant East*, 56).
- 83 Curtin, *Cross-Cultural Trade*, 38.
- 84 *PME* 16.
- 85 Curtin, *Cross-Cultural Trade*, 11–12. For marriage as a commercial strategy in Antiquity, see W. Broekaert, "Welcome to the Family! Marriage as a Business Strategy in the Roman Economy," *Marburger Beiträge zur antiken Handels-, Sozial- und Wirtschaftsgeschichte* 30 (2012), 41–66.
- 86 Curtin, *Cross-Cultural Trade*, 46.
- 87 McLaughlin, *Rome and the Distant East*, 18 and 47.
- 88 Thapar, *Early India*, 160.
- 89 Parker, "Ex Oriente luxuria," 53–54; McLaughlin, *Rome and the Distant East*, 47.
- 90 McLaughlin, *Rome and the Distant East*, 129.
- 91 G. Wagner, "Une dédicace à Isis et à Héra de la part d'un négociant d'Aden," *Bulletin de l'Institut Français d'Archéologie Orientale* 76 (1976), 277–281.
- 92 R. Salomon, "Epigraphic Remains of Indian Traders in Egypt," *Journal of the American Oriental Society* 111(4) (1991), 731–736.
- 93 D. C. North, "Where Have We Been and Where Are We Going?," in *Economics, Values, and Organization*, ed. A. Ben-Ner and L. Putterman (Cambridge, 1998), 494.
- 94 See N. Morley, *Trade in Classical Antiquity* (Cambridge, 2007) for the central place of information and protection in Mediterranean trade.

2. Sinews of belief, anchors of devotion: the cult of Zeus Kasios in the Mediterranean

Anna Collar

Abstract: *The cult of Zeus Kasios originates from the ancient holy mountain on the Syrian–Turkish border. The mountain was sacred from the Bronze Age at the latest, known to the people of Ugarit as Sapanu, and the Hurrians as Hazzi. The Hittites composed mythological song cycles (song of the sea, kingship in heaven) about it; Archaic Greeks settling and trading at Al Mina adopted the name Hazzi as Kasios. An enormous, partially-excavated mound of ash and debris from sacrifice on the summit implies continuity of worship from the Bronze Age through to the end of the cult in Late Antiquity; and a temple to Olympian Zeus was built a few hundred metres below the mountaintop which subsequently became a monastery.*

However, in this paper I explore the connection the mountain had with the sea: thinking about Kasios as an important and sacred landmark for sailors (it was still referred to as ‘the Throne’ by Late Antique sailors and locals), and the manifestation of the cult of Zeus Kasios through the material remains dedicated to him across the Mediterranean. These objects can be understood as the traces of the physical maritime routes that criss-crossed the Mediterranean on the one hand; but also as emotionally-charged objects, anchoring Mediterranean-wide mental connections to specific landscapes, and

creating a perceptual web of divine protection for ancient sailors far across the seas.

Keywords: Zeus Kasios, maritime religion, mountains, mental mapping, emotion

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Introduction: Mount Kasios and its god(s)

Looming 1,800 m above one of the most difficult coastlines of the Mediterranean is the Jebel el-Akra, a mountain of immense ancient sacred power. In the Bronze Age, the people of Ugarit, 40 km to the south, knew it as *Sapanu*, home of the storm god Baal; the Hurrians and later Hittites in the north called it *Hazzi*, home of their own storm deity, Teshub.¹ Greeks settled at Al Mina in the early first millennium BC, and called the mountain Kasios: linguistic analysis has shown that *Hazzi-Kasios* are cognate.² The mountain was the ancient scene of a terrible divine battle between the Ugaritian Baal and the sea-god Yamm; and also of that between the Hurrian-Hittite storm god and the rock-giant Ullikumi.³ The importance of the North Syrian-Orontes gateway in the transmission of West Asian goods, ideas and mythologies in the first half of the first millennium BC is well known, and, clearly drawing on sacred narratives transmitted in all likelihood via this route, the Archaic Greek poet Hesiod tells, for his Greek audience, the similar tale of Zeus's ferocious battle with the giant-snake monster of the sea, Typhon. *'A conflagration held the violet-dark sea in its grip, both from the thunder and lightning and from the fire of the monster, from the tornado winds and the flaming bolt. All the land was seething, and sky, and sea; long waves raged to and fro about the headlands from the onrush of the immortals, and an uncontrollable quaking arose.'*⁴ Zeus' phenomenal power is manifest in the physical violence of the winds, waves, and thunderstorm, and he is victorious (not the case for his Near Eastern predecessors, where Baal/Teshub has to enlist the help of other deities in order to achieve final victory over Yamm/Ullikumi).

Although Hesiod does not explicitly name the place, Apollodorus locates the battle between Zeus and Typhon at Mount Kasios.⁵ The mountain and region more broadly was clearly of great importance to many different groups over millennia, and continuity of ritual practice from the Bronze Age onwards is seen in the immense and very ancient ash altar on the summit (probably now destroyed following the

construction of a Turkish military base on the mountain's peak in 2012)⁶ – a fire and associated plume of smoke from sacrifice on the mountaintop would have been widely visible on land, and also at sea. At some point in the first millennium BC a temple to Zeus was built on the upper reaches of the mountain, converted in late antiquity into a Christian monastery of St Barlaam (perhaps the Christians who dedicated the monastery chose this saint partly for a linguistic resonance with Baal?). The mountain itself was considered from the earliest times to be the deity's physical seat – a characterisation that continued even after the Christianisation of the mountain, through its nickname to locals and, importantly, also to sailors, 'the Throne.'⁷

It is this intertwined physical, mythological and mental relationship that the mountain and its deity/ies had with the sea and to those who sailed on it that I will explore in this paper: in terms of the metaphysical connections made between Zeus *Kasios* and his power over the sea, and in terms of the meanings of the landscape itself for sailors. In a volume dealing explicitly with network models, this paper does not: the evidence for the Zeus *Kasios* cult across the Mediterranean does not constitute a stable set of relationships that justify using a formal network analytical approach to model them. The evidence gathered together here instead represents much more fluid, more human, understanding of connectivity, the products of individuals' actions, choices, beliefs and perceptions about the world they occupied. It is true that the objects dedicated to Zeus *Kasios* can be understood as trace markers of the physical maritime journeys people took that criss-crossed the Mediterranean, which might be considered as a 'traditional' network of trade and seafaring connectivity. But they must also be understood as objects that embody points of emotion – in particular fear, hope and gratitude. By considering the cult of Zeus *Kasios* holistically, we can see the objects and landscape/seascapes where the cult is found as the trace markers of a perceptual web of divine protection and guidance for ancient seafarers, that relates to specific landscape features and reaches far across the maritime world.

I order this holistic exploration of the cult diachronically: we start with the earliest known places and objects devoted to the deity of *Kasios*, Baal Zaphon, which established the connection between the god and the sea, tying it to particular places. The Egyptian Delta is one which seems to be particularly important in the corpus, and we examine the evidence for Iron Age cult here before moving on to look at the Hellenistic and Roman cult finds and places, before exploring

the entanglement of landscapes, emotions and objects of cult as part of a guiding and protective web that had particular importance for those at peril on the sea.

Sapanu, Baal-Zaphon and the sea: a Bronze Age seafarer's cult

After relating the terrible battle between Zeus and Typhon, Hesiod goes on to describe the strong winds that are the offspring of Typhon, the ones that *'blow haphazard on the sea. Falling upon the misty waves, a great bane to mortals, they rage with evil gusts; they blow different at different times, scattering ships and drowning sailors. There is no help against disaster for men who meet with them at sea.'*⁸ These terrible Typhonic wind-children that are such a danger for sailors are strongly connected with the Bronze Age characterisation of the sea-god Yamm in the Ugaritic Baal cycle – untamed, and controlling storms at sea.

The Mediterranean has many strong winds that cause great storms and heavy seas: the cold Mistral, that blows from the northwest down from France to Corsica and Sardinia in the winter and spring; the strong and often sudden Meltemi from the northeast during summer in the east Mediterranean; the hot, dusty Sirocco from the southeast in the autumn and spring, and many others. Combined with localised turbulent currents and the often fearsomely rocky coastlines, it is easy to see how these raging or quixotic winds could be characterised as the offspring of a sea-monster. Although more unpredictable in winter, even during the summer the prevailing winds of the Mediterranean can make certain routes extremely hazardous – for example, although the Meltemi in the east Mediterranean would have enabled swift and easy passage south from Greece to Egypt, it entailed a long, laboured beating up against the wind if travelling north along the Levantine coast.⁹ The coastline around Mount Kasios is notorious: the lack of safe harbours (the Samandağ Bay to the north of the mountain is one, and that of Ras el-Bassit to the south is another, but both entail very careful navigation), the sheer, rocky coast and the extreme sea depth (1,000 m) very close to land, coupled with the local instability of the sea currents caused by the Latakia anticyclonic eddy make sailing (and anchoring) challenging¹⁰ – a fact well known in antiquity, as it is particularly mentioned as 'rough' in the area around Mount Kasios in the *Stadiasmus Maris Magni* (146).

The Levantine coast contained, of course, the ancient city states of Canaan or Phoenicia, renowned for their seafarers. Phoenician sailors of the early first millennium BC developed extensive maritime

trade routes, with offshore trading settlements at Gadir in Spain and Utica in North Africa from at least 1100 BC.¹¹ They knew the winds and currents well – the snippets of Phoenician theology written down by Sanchuniathon and preserved, although muddled, in Philo of Byblos,¹² make clear the primordial places of the wind deities and the importance of Mount Sapanu in their theogony, as well as the invention of boats. Phoenicians naturally brought with them across the Mediterranean religious attachments to the deities of their Levantine homeland – Astarte, Melqart and Baal-Zaphon: Baal of Mount *Sapanu* (Hazzi/Kasios).

The meaning of *Sapanu* (*špn*) is disputed: Eissfeldt associated it with Hebrew *šāpâ*, ‘to watch, keep a look out;’ de Savignac derived it from *šāpan*, to ‘conceal or hide,’ associating this with the cloudy sky and by association the mountain which holds the sky up (it should also be noted that the summit of Mount Sapanu-Kasios is often shrouded in cloud); Grave argues that *šāpôn* refers to the north wind and therefore to the north more generally, with the mountain making up a major part of that skyline for the people of the Canaanite coast; and Lipiński finds a connection between *špn* and *šûp*, meaning flood, arguing that this association was made because of the god of the mountain was understood as the Lord of Seafaring.¹³

Whatever the meaning of the mountain’s name, the people in Bronze Age Canaan venerated it and its deity, and the connection the god had with protection of seafarers is made at this early stage. At Ugarit, the temple to Baal is thought to have had a tower at least 20 m high, which Yon suggests that, alongside the twin tower on the temple to the earth deity Dagon, would have acted as a clear landmark or even lighthouse for sailors to find the harbour.¹⁴ Frost details the 22 stone anchors that were found in excavations of the temple buildings, argued persuasively to be votives offered by sailors in thanks for safe sea journeys¹⁵ – some weigh half a tonne and certainly do not represent reuse. The temple of the Obelisks further to the south at Byblos also features a number of votive stone anchors as well as hundreds of figurines that probably represent Baal, although Reshef is also present in the temple.¹⁶ Smith argues that ‘it would be natural for Baal, as conqueror of Yamm, to be thanked by sailors for their successful journeys across the Mediterranean,’¹⁷ and continuing this connection between the Levantine Baal and dominion over the sea, in the Ugaritic Kirta epic, Mount Sapanu was compared to a ship;¹⁸ indeed, a thirteenth century BC papyrus fragment from Memphis in Egypt says that Baal Zaphon himself was worshipped *in the form of a*

ship.¹⁹ Ships were believed to possess divine spirits, often represented by the figurehead or the eyes painted on the prow. Manifesting Baal Zaphon – the conqueror of Yamm – or his throne, lookout and place of the final defeat of the sea-god, Mount Sapanu, as a protective vessel for humans at sea makes metaphorical sense. It is clear, then, that the earliest known cult of the god of Mount Sapanu makes a direct physical and metaphorical connection between the mountain and the sea – the landscape and the deity both offer guidance and protection for sailors.

Sailing with the god: Iron Age cult of Baal Zaphon in Egypt

If Baal Zaphon protected sailors, then it was sailors who took it with them elsewhere – the papyrus mentioned above provides evidence for the worship of Baal Zaphon from the Nile Delta in the Late Bronze Age, which Chuvin and Yoyotte argue was probably brought by Canaanite sailors.²⁰ Social, political and commercial connections between North Syria and Egypt were strong in the Late Bronze Age–Iron Age, and the sea-route between them is well-known²¹ – and the example of an Egyptian who dedicated a famous stele in the Ugaritian Baal-Zaphon temple precisely because of his role as a protector of navigators²² suggests acceptance of the deity among Egyptians exposed to it. The cult was certainly established in northern Egypt by c. 600 BC: a papyrus letter²³ from a lady in the Phoenician colony of Daphne-Tahpanhes (Tell Defenneh), sited between Tanis and Pelusium, invokes the blessing of Baal Zaphon and all the gods of Tahpanhes;²⁴ it seems the deity was also worshipped in the city of her correspondent, Memphis (from which the thirteenth century papyrus fragment comes, making a suggestion of cult continuity?).²⁵

Greeks had also settled at Tahpanhes in the seventh century BC, calling the settlement Daphnae – making a suggestive, though unprovable, allusion to the town of Daphne by Antioch, in the shadow of the Syrian mountain that Greeks living at Al-Mina had already translated as Kasios. Biblical sources also testify to the cult in the delta: it has been argued that when the P-source for the Exodus (composed between 600–400 BC) directs the Israelites to proceed ‘to Baal-Zaphon’ and a sea near it, this reference is either to Tell Defenneh or to another sanctuary of Baal Zaphon on the coast – in other words, the cult and its god were prominent enough in the Egyptian delta to be used as a direction.²⁶

Zeus Kasios in the Hellenistic period; and the other Mount Kasios
After Alexander, the Seleucids founded their new capital at Antioch, and in Syria, the Hellenistic cult of Kasios is attested through a number of inscriptions from the area around the mountain and city. In Seleuceia Pieria, coins were minted which bore the deity's name, and a list of annual priests from 187–185 BC²⁷ includes those for Zeus Kasios alongside those of Zeus Olympios and Zeus Koryphaios as 'the gods who save' – making it likely that the sanctuary on the mountain, from which fragments of roof tiles have been found stamped with Zeus Kasios,²⁸ was in existence by this point. An inscription from Daphne by Antioch refers to the area of the mountain Kasiopis.²⁹

Nearby at Aigai we find a Hellenistic-period prayer to Zeus Kasios for the health of Antiochos III and his family.³⁰ From Keramos near Halikarnassos, a donor of a sundial in c. 100 BC knew of the proverbial height of the mountain, as the dedication was inscribed with a verse which tells us that his sundial would remain accurate at telling midday, 'as often as the sun shines above highest Kasios.'³¹ In other words, along the coast of Asia Minor, Zeus Kasios was known, both in localised terms, and as a supreme deity to pray to for the health of the ruler. Moreover, his seat, Mount Kasios, had also made its way into popular knowledge and was renowned as a place of great height – a vital landmark for astronomy, meteorology, and, of course, seafaring. Like Baal Zaphon, the Hellenistic Zeus Kasios is also a protector of ships at sea,³² and we find anchors and model ships dedicated to him around the Mediterranean.

In Egypt, we have seen that the cult of Baal Zaphon was well established in the mixed communities that occupied the Nile delta. By the Hellenistic period, we find the Greek Zeus Kasios in a number of places, which in some cases, may have been the *interpretatio* of the earlier cult to Baal Zaphon, as Lane-Fox suggests in the case of the major port (now landlocked) considered the 'key to Egypt,' Pelusium.³³ There was a temple to Zeus Kasios here, probably restored by Hadrian,³⁴ as coins minted under Trajan seem to show the Pelusian cult statue.³⁵ The Zeus worshipped here was associated with the Egyptian Horus (Harpokrates), who in Egypt has the role of the 'young sun,' and is considered a bringer of fertility and provider of bread.³⁶ Even in later Roman fiction, ships and Zeus Kasios are connected: according to Achilles Tatius, whose fictional lovers Leucippe and Clitophon visited the temple after being shipwrecked on the shore nearby, the sacred statue of him looked more like Apollo, and held a pomegranate (3.6).³⁷

The coastal nature of the cult is highlighted in the name of a promontory on the Mediterranean coast of north Egypt. A ‘sandy hill without water,’³⁸ this promontory was called Kasios by Herodotus c. 440 BC,³⁹ and there was a temple to him here at least in the early Roman period. The Roman general Pompey was murdered and buried here, and the hill gave its name to the small city nearby and the surrounding region, Kasion.⁴⁰ We know of personal names referencing Kasios;⁴¹ and the area seems to have been well-known into the Byzantine and Arab periods for both a kind of river-going boat and proverbially difficult to disentangle knots.⁴² Unfortunately there seems to be little in the way of archaeological data about the settlement and temple at Kasion, but Verreth does not believe there is evidence for Phoenician worship of Baal Zaphon here; instead, he argues it was probably a Greco-Egyptian foundation.⁴³

Most scholars now agree that the Egyptian ‘Mount Kasios’ is the low hill near the shallow, marshy Lake Bardawil/Serbonitis around 50 km from ancient Pelusium: modern Ras Burun, a toponym probably of Ottoman origin, ‘the nose.’ Earlier Arabic toponyms name the cape Ras el-Qass or Ras el Qasrun, perhaps in reference to its ancient name.⁴⁴ Although seismic activity may have changed this coastline and the height of this other ‘Mount Kasios,’ this sandy hill nevertheless punched above its weight even in much later literature – the Renaissance poet Torquato Tasso remarks on the sea passage from the Sinai towards Damietta at the mouth of the Nile: ‘*not long after, as she westward flew, with proud head seaward a huge mountain looms that bathes its feet in the unstable tide and in whose womb the bones of Pompey hide.*’⁴⁵ He cannot have seen it: Ras Burun now rises just five metres above sea level.⁴⁶ Scholars suggest that the only reason it could possibly have been called ‘Mount Kasios’ was because it made a landscape reference to the Syrian original;⁴⁷ in this context it is important to note the lack of harbour and the dangerous waters off Kasion. The fleet of the Macedonian Demetrius was beset by a storm on this coast in 306 BC, losing three quinquiremes to the heavy seas,⁴⁸ we have already heard that Achilles Tatius’ lovers were shipwrecked in this area, and modern sailing directions remark that, with the exception of Ras Burun, the shore of this section of coastline is extremely low and fronted by several shoals, warning ships to ‘give this stretch of coast a wide berth, especially in February and March, when dense fog is not uncommon.’⁴⁹ (An aside: Lane Fox suggests evocatively that such mists rising from Lake Bardawil may have conjured images of the imprisoned Typhon’s hot breath, lending

support to the mythological understanding of the mountain as another seat of Zeus Kasios.⁵⁰) In such treacherous waters, any hill, even one as low as five metres above sea level, will be an important visual navigation point and may have resonated both physically and spiritually with the landmark of the Syrian Kasios as a 'landscape anchor.'

Cult of Kasios is found also on Delos in the Hellenistic period, and Egyptian connections are very clear, where two inscriptions⁵¹ were given to the 'Great God (probably Serapis) and Zeus Kasios and Tachnepsis,' commonly understood to mean Isis *Tachnepsis*, who is connected in the 'Invocation of Isis' to mount Kasios in Egypt.⁵² They both mention a priest, Horos son of Horos Kasiotes, who was a priest in Serapieion A around 166 BC,⁵³ his name links him to the settlement at the Egyptian Kasion. An Egyptian from Kasion was presiding over the temple of the Egyptian gods on Delos; perhaps it was he who also installed the worship of Zeus Kasios amongst them. Chuvin and Yoyotte argue that a thank-offering by Xenophon son of Dionysius, from Beirut, from Serapieion A⁵⁴ should also be connected with the Egyptian cult of Kasios.⁵⁵ The lack of further named Egyptian deities in the text and his Levantine homeland leave this open to speculation, and we might equally imagine that this merchant, arriving from Beirut, finds Kasios, a deity he knows from his voyages along both the Levantine and the Egyptian coasts, worshipped with Egyptian gods within the Serapeion, and so makes his thanksgiving for his safe passage here.⁵⁶

We might also consider Delos itself as a landscape anchor. The island is remarkable for many reasons: as well as being a very ancient sanctuary and (albeit artificially created) nodal point in the Aegean,⁵⁷ it was a tax-free port during the Hellenistic period which made it highly commercially attractive and cosmopolitan, a place with a multitude of peoples and deities present, a place of conspicuous display and competition. It was one of the central places for commerce in the East Mediterranean, and its hub status is clearly visible in the *Stadiasmus Maris Magni* (284), which, despite the fact that Delos lost its importance after the disintegration of the Hellenistic kingdoms, gives distances between Delos and most of the Cycladic islands. However, in landscape terms, it is Mount Kynthos that makes it stand out: although only just over 100 m high, the surrounding landscape and geology of the island make it look much higher, and it certainly would have acted as a navigational aid for sailors.

Argument has been made that the cult of Zeus Kasios in the

Hellenistic period spread because of the Egyptian cult and temples at Pelusium, rather than that in Syria, partly because of the decline in importance of the Orontes corridor in the latter half of the first millennium BC. Chuvin and Yoyotte believe that although the deity was fundamentally the same, Zeus Kasios of Egypt possessed the quality of being protector of sailors, whereas his Syrian ancestor did not: *‘Il parâit de tout manière vraisemblable que ce Zeus Kasios ou Jupiter Casius, protecteur des marins, est le dieu de Péluse,’*⁵⁸ an interpretation seconded by Koch, who argues that it is only upon his transfer to Egypt that Baal-Zaphon becomes associated with seafaring.⁵⁹ However, both fail to acknowledge the mythological and material connections that Zeus Kasios’ Syrian predecessor, Baal Zaphon, had with the sea, boats, and sailing. Chuvin and Yoyotte go so far as to argue that, because the Greek Zeus Kasios is usually associated with Aphrodite (in some later dedications, as we will see), rather than Isis, *‘toute trace de son origine égyptienne disparaît.’*⁶⁰ I would argue that the presence of Aphrodite, rather, makes the god’s continuing (or renewed?) connection with Phoenicia apparent. As we have seen, the cult in Syria was still operational, and although there are links between Egypt and dedications at Delos, I wonder if instead of trying to disentangle the Syrian and Egyptian strands, we should think of the places where his worship is found as a mentally interconnected whole, that prioritise the landscapes in which it is set.

Kasios and the Roman Empire

The cult in Egypt continued in the Roman period. As we have seen, there was a temple in Pelusium restored by Hadrian, and another on the promontory called Kasios. A little to the south of Pelusium, a first-second century bronze stamp inscribed with Zeus Kasios was discovered during the excavations at Klysma-El Suweis (Suez), another coastal town, this time on the Red Sea,⁶¹ and which is often mentioned as being similar to one of unknown provenance but assumed to have come from the area of Pelusium.⁶² What these stamps were used for is not clear; their dedication by individuals implies they were not for marking property of the god. We should note also that the extension of Zeus Kasios’ worship to Suez implies that sailors on the treacherous, reef-filled Red Sea and beyond were also concerned for his protection.

Outside Egypt, the only other known temple to Zeus Kasios is on Corfu. Although it may have existed earlier, the temple was certainly

active from the late first century BC, as evidenced by two Latin inscriptions:⁶³ one, dated between 100 BC–100 AD, simply gives the dedicant's name and that it is sacred to Jupiter Cassius, while the other was given by a freedman of M. Valerius Messalla Corvinus (who died in 8 AD) in fulfilment of a vow. Pliny mentions a temple to Jupiter Cassius at the town of Kassiope,⁶⁴ supported by the account in Suetonius that the emperor Nero arrived by boat at Kassiope before displaying his 'talents' as a singer at the altar of Jupiter Cassius.⁶⁵ Procopius mentions an ancient *ex voto* white stone model ship at the temple, dedicated by a merchant in previous times which was connected by locals to Odysseus' ship.⁶⁶ Greek inscriptions reveal the cult's seafaring-mercantile adherents and highlight the distances travelled: on a marble column from the first or second century AD, Barbaros records his dedication of a model ship in gratitude for a better voyage (better than the last time at least, as the ship he gives is larger) – and if he is also granted wealth on the next trip he takes, then he promises to hang up a ship made of gold.⁶⁷ From the second century AD we find the dedication of Sabinus, the secretary of an athlete's association, who records in an epigram his salvation from the 'restless heaving sea' and his safe passage home to Ephesus.⁶⁸

Cook believed the connection between Zeus Kasios and the name of the settlement at Kassiope (face of Kasios) was accidental, suggesting that the cult arrived here from Delos (following Salač), and was identified with the Zeus of Kassiope, 'a Hellenic god probably connected with Mt Pantokrator.'⁶⁹ Pantokrator was previously called Santa Decca (Italian corruption of the Greek, ten saints)⁷⁰ – what was its name prior to this? Is Kasios too farfetched? Although there is no certain evidence for the cult earlier than the first coin struck in 46 BC, it lies on one of the most treacherous channels in the Mediterranean. This was the natural route up the coast for Italy,⁷¹ and the double harbour at Kassiope makes it a particularly safe haven. Lane Fox implies that eighth century BC Euboean settlers on their way to Italy and Sicily may have passed along this route, bringing the cult of Kasios with them, although there is (as yet) no evidence to support this view of the cult's antiquity here. We should, however, observe the town's place in the shadow of the island's tallest mountain: another clear landmark for sailors, and potentially one which made visual and mental connection with the original Syrian Kasios.

There is limited evidence for Roman period cult elsewhere. A Hadrianic inscription from Epidauros records the dedication by Hellanocrates son of Heraklidos to Zeus Kasios.⁷² Another was found

on the Athenian acropolis from the middle of the third century AD,⁷³ it is a priest-list with clear links to deities with protective functions for seafarers: alongside Zeus Kasios are listed Harpokrates, Aphrodite *Ourania*, the *Meter Theon*, and Isis *Taposiris*. Taposiris Magna was a coastal city on the opposite side of the Nile Delta to Pelusium, with a famous lighthouse built to mimic that at Alexandria: Isis herself was a goddess connected with the sea and seafaring and her temple at Taposiris had become synonymous with the deity in Republican times⁷⁴ – it was depicted on the mosaic floor of a temple near Rome. Harpokrates, Isis's son, was connected with Zeus Kasios at Pelusium, as we have seen. The inclusion of Aphrodite Ourania is particularly noteworthy, as Zeus Kasios and Aphrodite are connected in a number of inscribed anchors (see below); all of which suggests strongly that these priests were connected with a cult place associated with seafaring and seafarers, and that these deities were understood to share this protective quality.

Finally, one last inscription, something of an outlier in terms of location, dated between 175–250 AD, was found in Heddernheim on the German *limes*, given by Ovinus to Jupiter Cassius in fulfilment of a vow.⁷⁵

The ambiguity of anchors

Particularly interesting in the corpus of dedications to Zeus Kasios are the inscriptions on anchors from Sicily and southern Spain – which are loosely dated to the Hellenistic-Roman period. These finds pose questions about their nature: are these simply ‘lost items,’ cut loose because of a hurried departure (an explanation offered for Bronze Age stone anchors found on the seabed),⁷⁶ or do they mark active dedications, committed to the water to ensure a safe journey? As I hope will become clear, I am not arguing that the cult of Zeus Kasios was fixed in these places, as these finds surely represent even more than others the religion that travelled with the seafarers themselves. Nevertheless, the locations of the finds share some important landscape features which *may* indicate that these were dedications to Zeus Kasios, rather than just accidentally lost.

On Sicily, a (sadly now misplaced) lead anchor of unknown size with an inscription to Zeus Kasios⁷⁷ was found in the Porto Grande harbour of Siracusa, dated to the second century BC.⁷⁸ Two anchors were discovered near Palermo. One in lead, measuring 125 cm in length with CASIUS inscribed in Latin on one arm, was found in the

waters off Mondello,⁷⁹ a striking cliff that seems to rise straight out of the sea, and a second, measuring 145 cm long, was discovered at an unknown location on the other side of the Mondello at Isola delle Femmine, with VENERI inscribed on one arm and IOVI on the other. This has been suggested to equate to the dedication to Zeus *Kasios Sozon* and Aphrodite *Sozousa* from Cape Palos in Spain⁸⁰ – and may also connect with the inscription from Athens, despite the fact that Jupiter is not explicitly named as Casius. Off Cape Pelorus, modern Punta del Faro, at Messina, was found another lead anchor just shy of two metres long (192 cm) inscribed in Greek with ΚΑΣΕ, which has been interpreted as *Kasios*.⁸¹ It is no surprise to find *Kasios* here, at the legendary location of Scylla and Charybdis and the dangerous, fast-running currents of the Straits of Messina: Lane Fox has argued that the Archaic Greek settlement of Zancle (Messina) was settled by Euboeans, bringing with them the myths of Kronos and Zeus that they had heard at Mount Hazzî.⁸² Kronos' sickle was 'discovered' at Zancle in the Archaic period, so an associated cult of the Zeus of *Kasios*, he who castrated Kronos and who guarded ships at sea, was particularly appropriate here.

From off Cape Palos in Murcia in Spain comes a final inscribed lead anchor, the first side reading ΖΕὺς Κάσιος σῶζων, the second Ἀφροδίτε σῶζουσα.⁸³ It is 160 cm long and weighs 196 kg, and is dated to between the third–first century BC, on the grounds that lead stopped being used for anchors by the second century AD, although lead is known to have been used from c. 600 BC for anchor stocks.⁸⁴ The anchor was part of a larger deposit including other anchor stocks and lead ingots, suggesting to Chuvín and Yoyotte that it was part of a cargo of a ship that sank;⁸⁵ but it could equally represent the throwing overboard of the heaviest items in order to lighten the ship's load while in difficulties. Cape Palos has a double harbour on either side of the notoriously dangerous rocky headland (the Italian SS *Sirius* was wrecked there in August 1906; more than 200 people perished).⁸⁶

Anchors of devotion: objects as emotions, landscapes as anchors

We should take the inscriptions, votives and landscapes of *Kasios* as one unit. At the most basic level, we can read them together as traces of maritime routes across the Mediterranean, but we can view them metaphorically too: as glimpses of the connective sinews of belief that followed the sailors and their boats across the seas, which, in dialogue with the landscapes of their deposition or loss, reveal traces of a

mental web of divine protection. Mount Kasios was a landmark for sailors, a protective guide: other mountains around the Mediterranean appear to have also been named Kasios (certainly in Egypt, but possibly also in Corfu, and even Spain),⁸⁷ but mountains generally were important for navigation. This translates into the metaphor of the god himself as a protective guide for sailors; and the end point of this train of associations is the physicalised metaphor of the anchor inscribed to Zeus Kasios: the material protector of ships at sea.

Inscribed anchors are a particularly evocative reminder of both the dangers of the sea, and of the human need to attempt to ward them off. Perea Yébenes suggests that although not exactly votives, these anchors, inscribed in the casting shop, should be understood as ensuring ‘protection for a safe voyage before setting out’.⁸⁸ However, it may be that these large, piously inscribed anchors to Kasios that we have seen here can be considered the ‘sacred anchor,’ as described by Lucian: ‘the hindmost anchor, the one those that sail call holy’ (*Fugitivi* 13); objects possessed with a divine quality for the sailors, believed to personify the god.⁸⁹ The sacred anchor, our modern sheet anchor, was the large, spare anchor for use in emergencies, well known to also carry a metaphorical meaning: a final source of help in times of danger, a simile used, for example, to describe Hecuba’s son as the last hope of the house of Priam.⁹⁰

The sacred anchor especially, then, can be considered as an emotionally-charged object, representing a collective prayer for safety. Understanding these inscribed anchors and other Kasios dedications collectively starts to show the presence and accumulation of emotion – particularly gratitude and fear – and emotional narratives, in certain places. It is unclear whether these places were deliberately chosen, and the inscribed anchors were ‘cast off’ as an active dedication to thank or propitiate Zeus Kasios before or after a journey, or if they were lost as the ship foundered.

In addition to the objects comprising emotional *schwerpunkte* that coincide with what we understand of the most-travelled Mediterranean seaborne trade network, I suggest that they also reveal Mediterranean-wide mental connections between distant sacred landscapes. Brody notes that promontory temples and shrines often accentuate the landmark, serving both a functional and sacred role: ‘[temples] continued the link between seafarer and holy patrons away from port, served as landmarks for navigation, and typically marked the location of freshwater sources.’⁹¹ Natural features too, such as mountain peaks, were also vital to seafarers⁹² – the Syrian Mount

Kasios is a landmark for travellers by land, perhaps even more important for those at sea. It is the focal point for summer thunderstorms and causes the highest rainfall along the coast of Syria.⁹³ Lane Fox has argued persuasively that Mount Kasios was, through the myths that surround it, ‘a travelling mountain’⁹⁴ during the Archaic period.

Taking account of Horden and Purcell’s astute observations about the ebbs and flows of significance in Mediterranean connectivity as being connected to local knowledge and current practice, rather than physical peculiarities,⁹⁵ we can bring our understanding of the well-travelled sea-routes of antiquity together with that of the land-seascape of the Zeus Kasios find spots to begin to reconstruct the invisible perceptual connections of Mediterranean sailors. If we think about the locations of the objects dedicated to Zeus Kasios holistically in this way, we can start to build up a picture of how this cult was fundamentally connected to the landscapes *from the sea* that were particularly important to seafarers, and how these intersect with maritime routes.

The generally accepted picture of ancient Mediterranean shipping lanes is of preferred long-distance routes which are set largely by the winds and currents, further delimited by the lee shores of the north African coasts:⁹⁶ the safest routes were along the islands and coastlands of the northern shores (east to west, but also vice versa),⁹⁷ although Horden and Purcell have usefully reappraised this.⁹⁸ Many of the Kasios finds come from important nodal points along the northern routes: Delos, Kassiope on Corfu, Cape Pelorus in the Straits of Messina, Siracusa and Mondello, indicating routes up the coast of Italy, to Carthage and north Africa, and across to the far west, where we find the anchor from Cape Palos. If we follow the logic of the commonly understood sea-lanes, we might not be surprised to discover finds to Kasios around the south coast of Cyprus and Crete, around Rhodes, and potentially around Sardinia, the Balearics or Malta.

Horden and Purcell map the spaces in the Mediterranean that are out of sight of land, spaces, which they assert, held the ‘greatest terror’ for seafarers.⁹⁹ The terror for mariners is surely equal when faced with a dangerous, rocky lee shore against which the wind and sea is driving – ancient boats could not sail into the wind.¹⁰⁰ The danger of wrecking is much stronger nearer the coast than in the open main – Scylla and Charybdis find their homes in the Straits of Messina, not out at sea. For the smaller vessels that conducted much of

Mediterranean shipping, moreover, passing across great distances out of sight of land was impossible; restricted by the size of the boats and the lack of water storage capacity. Precise knowledge of the coastal landscapes is therefore rendered even more vital, and for mariners, what can be seen of land from far out at sea ties them into a perceptual and hyper-perceptual mental network: not just of what can be seen, but also what is *expected* to be seen. ‘Like lines of intercommunicating watch towers, the mariner’s lines of sight express the greater unity of what lies beyond the bounds of perceptibility.’¹⁰¹

Distinctive, visible-from-afar coastal mountains formed an essential part of the mental maps of sailors, part of the way that sailors understood the world and found their way through it safely. Of course, much of the Mediterranean coastline is marked by dramatic, mountainous scenery, which is all the more reason for sailors to know distinctive features intimately. Mount Kasios is highly distinctive, and it would have remained an important navigation point for sailors following the route along the Levantine coast from Egypt, or between Cyprus and Syria: it is no wonder the mountain is mentioned in the *Stadismus Maris Magni* (146). We find in many of the Kasios findspots that there is an important and distinctive mountain as part of the landscape that is visible from the sea – conical Kynthos at Delos, Pantokrator behind Kassiope on Corfu, Etna rising high in the distance beyond Siracusa, the distinctive cliff of Mondello at Palermo, the mountains behind Messina – even the low hill of the Egyptian ‘Mount’ Kasios is important for maritime navigation in relative terms.

In other words, these places are ‘landscape anchors’ for mariners, some of which will have been visible from far out to sea and acted as a guide to bring ships safely into harbour. Objects dedicated to Zeus Kasios in these particular landscape-seascape locations give tangible form not to a ‘cult network’ of Kasios worship, but to the religious beliefs of quintessentially mobile people and their mental mapping. In this way, the inscriptions, anchors and landscapes can be understood together as traces of physical maritime routes operating in the Hellenistic-Roman world, but also as revealing an emotionally-charged series of narratives about seafaring and safe havens, constituting a perceptual web of divine protection for ancient seafarers that connects land forms that are visually important for maritime navigation far across the Mediterranean.

Acknowledgements

My thanks to Michael Blömer and Barbara Kowalzig for sharing their bibliographic research, to Eivind Heldaas Seland and Håkon Teigen for their patience, comments and the opportunity to participate in the Athens conference in December 2015, and to my fellow participants and the anonymous reviewer for their very helpful thoughts and suggestions for improvement.

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3. Numismatic communities in the northern South Caucasus 300 BCE–300 CE: A geospatial analysis of coin finds from Caucasian Iberia and Caucasian Albania

Lara Fabian

Abstract: *Networks provide a rich framework for studying numismatics, enabling an examination of coins that accounts for both the physical networks across which they travelled as well as the metaphorical networks within which they were used. This paper applies network approaches to discuss numismatic data from the northern South Caucasus in the Hellenistic and Roman-Arsacid periods. The zone was, at the time, a multifaceted frontier between the Mediterranean and Iranian empires and the Eurasian steppe, which led to profoundly complex material and cultural exchanges.*

Here, an analysis of the hypothetical routes through the South Caucasus that brought coins into and around the zone is combined with a study of actual coin distribution patterns of over 4700 coins with established provenance. This allows for the identification of ‘numismatic networks’ that represent particular adoptions of numismatic practice in the imperial borderlands. Two of these networks are discussed in detail, spatially related to the polities of Caucasian Iberia and Caucasian Albania. The contrasts between coin use practices in the two zones demonstrate that, although coins came to circulate in the territory through interactions with neighbouring empires,

numismatic practice was shaped more by local priorities than simply by imperial proximities.

Keywords: Caucasian Albania, Caucasian Iberia, networks, GIS, numismatics

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Introduction

The South Caucasus, corresponding roughly to the territory of modern Georgia, Azerbaijan, Armenia and eastern Turkey, rests on a critical border between the Near East, the Mediterranean world and the Eurasian steppe. In antiquity, it was a multifaceted and asymmetrical frontier: the northern junction of the Roman and Arsacid (Parthian) empires, where a series of mountain passes connected the Mediterranean and Iranian worlds to mobile pastoralist communities of the steppe. As such, it was the site of prolonged social and economic negotiations among these powers, local authorities and residents – but was seldom unambiguously affiliated with any of its imperial neighbours.

This paper looks at Hellenistic and Roman-Arsacid period networks of numismatic circulation in the central and northeastern reaches of the South Caucasus, from the Kura (Mt’k’vari) river basin to the southern slopes of the Greater Caucasus (Fig. 3.1). According to literary sources, the Hellenistic period saw the growth of two dominant polities in the Kura basin, although their exact territorial extents are unclear.¹ Caucasian Iberia was located along the upper Kura, centred at the modern site of Mtskheta, Georgia, at the confluence of the Kura and Aragvi rivers.² Caucasian Albania, further to the east, likely had its capital at Gabala in modern Azerbaijan.³ These northern territories fell outside direct Hellenistic control,⁴ but over time and through interaction with the neighbouring polities of Colchis, Armenia and Atropatene, the dynasts holding sway along the Kura became increasingly involved in cultural and political relationships with their Seleucid, Roman and Arsacid neighbours.

The spread of imported coins and the development of local minting traditions in Iberia and Albania are clear indications of these ties. At the same time, the process was not uniform. The scope, intensity and goals of numismatic use in Iberia and Albania demonstrate that the adoption of the ‘numismatic habit’ on this edge of the great ancient empires was locally contingent, with coin use

adapted to a variety of goals.

Network approaches in the South Caucasus

Given the intrinsic association between coins and geographic circulation, networks – in both a metaphorical and formal sense⁵ – are a productive framework for studying numismatics. This paper combines an analysis of hypothetical routes through the South Caucasus with a study of actual coin circulation patterns, evidence of use and depositional circumstances from the zone. This allows for the identification of ‘numismatic networks’ that represent particular configurations of numismatic practice.

I use geographic information systems – GIS – to develop a hypothetical route model of the South Caucasus – the formal component of the network study.⁶ The rugged mountainous landscape and the borders of the Black and Caspian Seas constrain movement and funnel travellers through specific paths, enabling the development of a model that identifies corridors attractive to overland travel. The result is a topographically informed route map that shows how space may have functioned, but avoids zonal assumptions about territorial control.⁷ In light of modern border disputes in the South Caucasus, in which the territorial extents of ancient and medieval populations are linked to the borders of modern nation states,⁸ such alternate cartographies are particularly useful.

These travel corridors provide the foundation for analysing the numismatic networks of Caucasian Iberia and Caucasian Albania. The zone’s complicated ancient numismatic situation defies simple categorisation. Coins entered from both the Mediterranean and Iranian worlds, circulating in overlapping spheres of use. While the realities of such interactions are under-theorised in numismatic literature, it is likely that access to multiple pools of currency had ramifications for both economic and cultural practice. Furthermore, coins in extra-imperial territories were often embedded in both market and prestige economies, so that the presence of a Roman or Arsacid coin is not straightforward evidence for participation in one economic system or the other.⁹ For this reason, interpretations of the material that focus on integration into either Roman or Arsacid economic zones fail to explain the data.

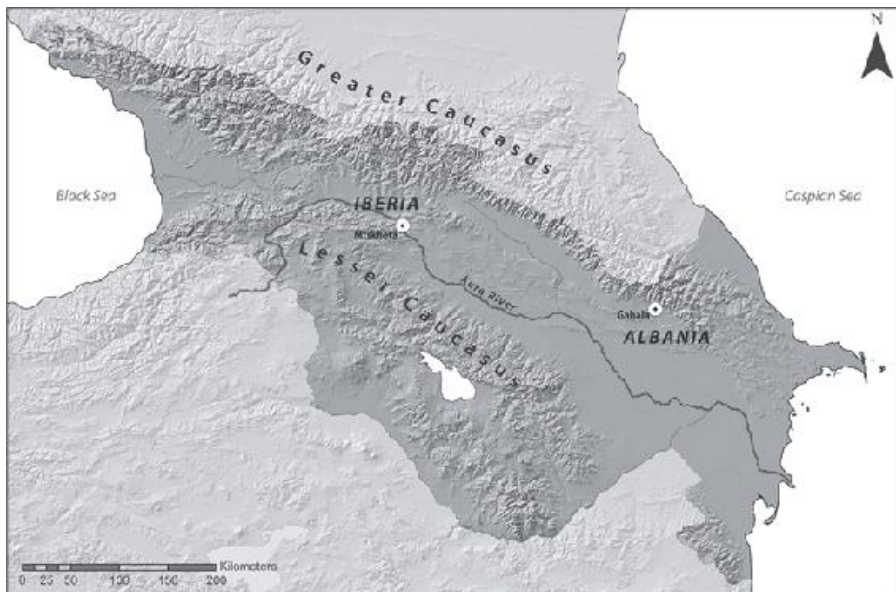


Figure 3.1. Caucasian Iberia and Albania. Shading corresponds to modern nations of Georgia, Armenia and Azerbaijan. Map credit: L. Fabian

Nevertheless, coins have long been used as an interpretive tool in the region. Even Strabo, comparing Caucasian Albania and Caucasian Iberia, discusses coin use explicitly. He reports that, in contrast to the urban Iberians, the more wild Albanians were not able to count past 100 and did not use coined money (xi.4.4). In fact, the numismatic data demonstrate that, while Iberia did appear to have more intense interactions with its neighbours to both the east and west, Albania was a centre in its own right of a surprising Hellenistic zone of locally minted coinage. A network approach helps to contextualise this data and to focus our attention on its unique contours.

Formal networks: defining a route system for the South Caucasus

Traditional maps, which circumscribe ancient polities within territorial limits, do a poor job of explaining regional interactions in the South Caucasus – a zone of porous and ever-changing borders. A route system based on topographic realities provides a sounder basis for understanding how objects and people circulated in the region, and how polities leveraged their territorial positions. Advances in GIS and network analysis in recent decades have yielded methods for predicting route choices in a landscape, while developments in network analysis have provided new tools for identifying central

routes within a network. The following section describes the creation and analysis of such a route network for the South Caucasus.

Least Cost Paths and networks

Within archaeological studies of human movement, a framework for GIS-based Least Cost Path (LCP) analysis has been developed, using raster-based cost surfaces to model the relationships between humans and their environment.¹⁰ Cost surfaces, in this context, reflect travel-impeding or travel-attracting features, such as topographic characteristics (slope, mountain passes), hydrological or environmental features (lakes, swamps or deserts), and cultural elements (settlements, dangerous territorial borders or symbolic spaces).¹¹

Although early research focused on movement between pre-determined points in the landscape (usually known archaeological sites), recent work has sought to develop predictive LCP networks across territories that do not depend on known starting and ending points.¹² Since numismatic material typically does not travel in a straight line from a point of origin to a destination, site-based route modelling is of limited use for numismatic study. However, the broader scale of a LCP network can provide meaningful information about circulation patterns, and is therefore the scale pursued here.

Methods: ArcGIS and Depthmap network construction

The goal of the South Caucasus route model is to describe corridors of movement within the zone as well as across the territory, so a wide study area of roughly 1000 km by 825 km was analysed in ArcGIS.¹³ In order to minimise edge effect (which preferentially weights the centre of a study area), analysis was conducted for the entire study area and then clipped for statistical purposes to the central zone of interest.

Across the study area, a grid of 518 study points was seeded at a staggered spacing of 50 km (Fig. 3.2).¹⁴ An anisotropic cost surface was calculated for movement to each of these destination points, taking into account two factors:¹⁵ (1) slope, using Tobler's hiking equation as a vertical factor to account for slope-based movement costs;¹⁶ and (2) mountain passes, identified using a Topographic Position Index as discussed by Jenness.¹⁷ Regions identified as passes were given a preferentially low friction to induce movement,¹⁸ reflecting movement possibilities for the parts of the year when these

passes are traversable.¹⁹ LCPs from each of the other 517 study points to the destination point in question were then generated.²⁰

After analysing 518 destination points, the LCP grids were added to create a cumulative cost path map aggregating over 268,000 LCPs (Fig. 3.3).²¹ In Figure 3.4, these routes are ranked by frequency, with the darkest routes corresponding to the paths selected most often. These spaces can be understood as *travel-attracting corridors* – ‘probable loci of movement’ in the landscape.²² This cumulative cost path map, then, reflects travel attraction as a function of the frequency of LCP presence in a given place.

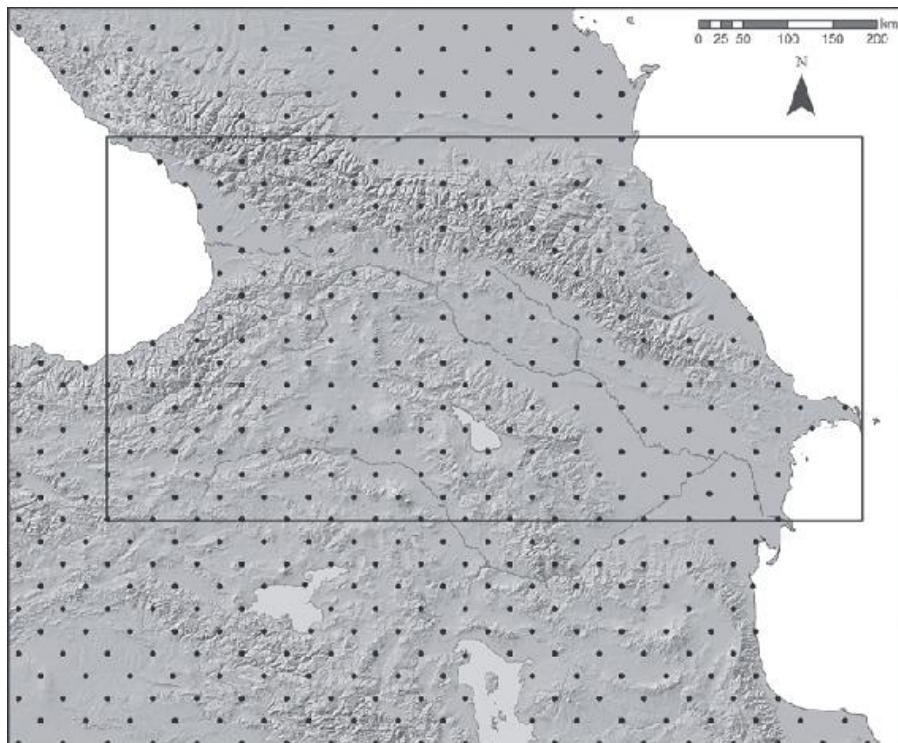


Figure 3.2. Least Cost Path study points. Zone of interest marked by box. Map credit: L. Fabian



Figure 3.3. Cumulative Cost Paths. Map credit: L. Fabian

Another approach for quantifying the propensity for movement within a system comes from network analysis, which characterises network topology and identifies important routes. Studies of urban street grids have demonstrated correlations between observed patterns of use and syntactic measures of individual streets,²³ and the same approaches have recently been applied to regional LCP analyses.²⁴ Based on the premise that only the most robust routes would have been ‘primary’ landscape corridors involved in regular and long-distance overland movement,²⁵ the top 30% and 10% of the routes from the cumulative cost path map were vectorised,²⁶ and exported to DepthmapX, a software package for spatial network analysis (Fig. 3.5).²⁷

The present analysis focuses on one syntactic measure, *choice*, and particularly metric choice (Figs. 3.6 and 3.7). Choice records the number of shortest paths to pass through a given part of a spatial system, and is equivalent to ‘betweenness centrality’ in other types of network analysis.²⁸ Within studies of street networks, choice has been identified as corresponding to the ‘*through-movement* potential’ of a given space.²⁹

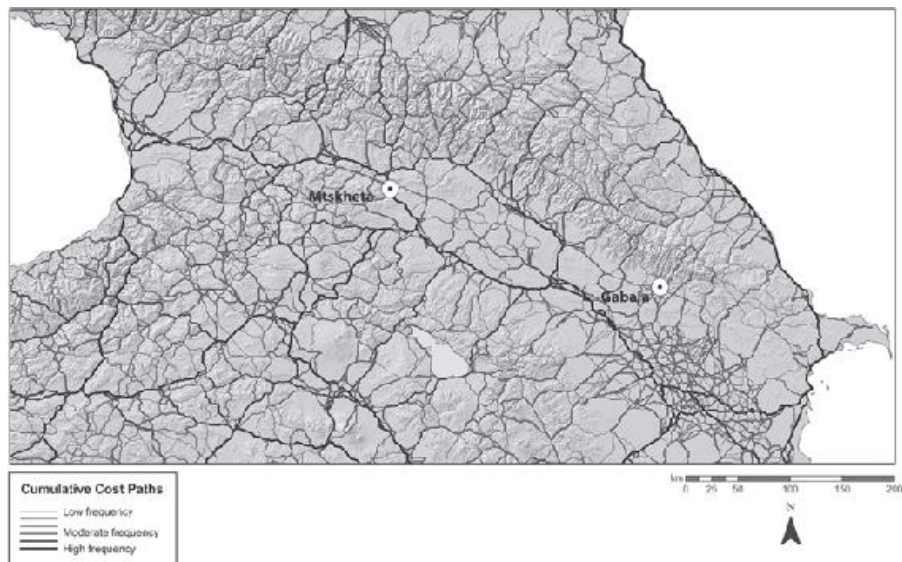


Figure 3.4. Cumulative Cost Paths ranked by frequency of route selection. Map credit: L. Fabian

The cumulative cost path map in Figure 3.4 and the metric choice maps in Figures 3.6 and 3.7, then, provide two different ways of quantifying the propensity for travel across the study area, and picking out regions of particular importance to (or remoteness from) major transportation routes.

Results of the analysis

We turn now to the Kura basin and the territories associated with Caucasian Iberia and Albania, looking first at the results according to the travel-attracting corridors of the cumulative cost path map (Fig. 3.8). Here, Iberia and Albania differ considerably. Iberia's capital, Mtskheta, sits at the nexus of dominant east-west and north-south travel-attracting routes. The Caucasian Albanian capital, Gabala, in the foothills north of the Kura, falls farther from any prominent travel-attracting routes.

Within the central South Caucasus, the most frequently chosen corridor leads east-west from the Surami pass through the Likhi Range separating eastern and western Georgia to the confluence of the Kura and the Aragvi rivers, where it splits off into a northern and southern spur. This east-west trunk route meets several travel-attracting north-south corridors, particularly those leading through the Darial Pass and the Roki and Zekara Passes. In the eastern South Caucasus, on the

other hand, most traffic is along the Kura. The only other high-frequency corridor there falls along the Caspian coast, running through the Derbent Pass. To the north, in the Ganikh-Ayrichay valley and near Gabala, high-frequency routes are very sparse.

Depthmap analysis offers another way of understanding movement potential, in the form of choice – or the likelihood of through-traffic. Choice within the 10% network looks quite similar to the cumulative cost path map (Fig. 3.6), picking out Iberia as a central zone, and identifying the Caspian path as the major north-south movement route in the territory of Caucasian Albania. However, in the wider 30% network (Fig. 3.7), the Caspian path loses importance to a series of passes through the Greater Caucasus that lead to the piedmont heartland of Albania, which may hint at the zone's importance over time.

Relationships between routes and coins

Despite interest in the spatial characteristics of coin distribution patterns,³⁰ GIS has been slow to gain popularity among numismatists, and the use of numismatic data in formal spatial analyses remains uncommon.³¹ Comprehensive theoretical models relating coin finds to landscapes or routes in the ancient world, therefore, remain a desideratum.

Within the northern South Caucasus, spatial approaches provide context for interpreting the numismatic practices. The analysis unsurprisingly demonstrates that territories in close proximity to travel-attracting routes had access to wide bodies of numismatic material, as the material from Iberia demonstrates. Data from Albania also suggest, however, that the growth of an economic zone was not contingent on access to a travel-attracting corridor or easy through movement. The remainder of this paper will explore numismatic material from these markedly different zones.

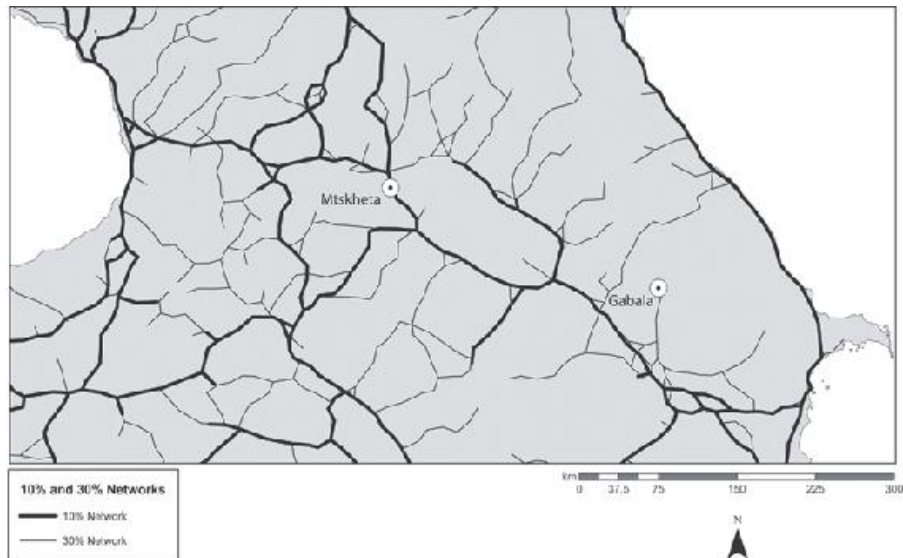


Figure 3.5. 10% and 30% networks extracted from cumulative cost paths, cleaned and vectorised. Map credit: L. Fabian

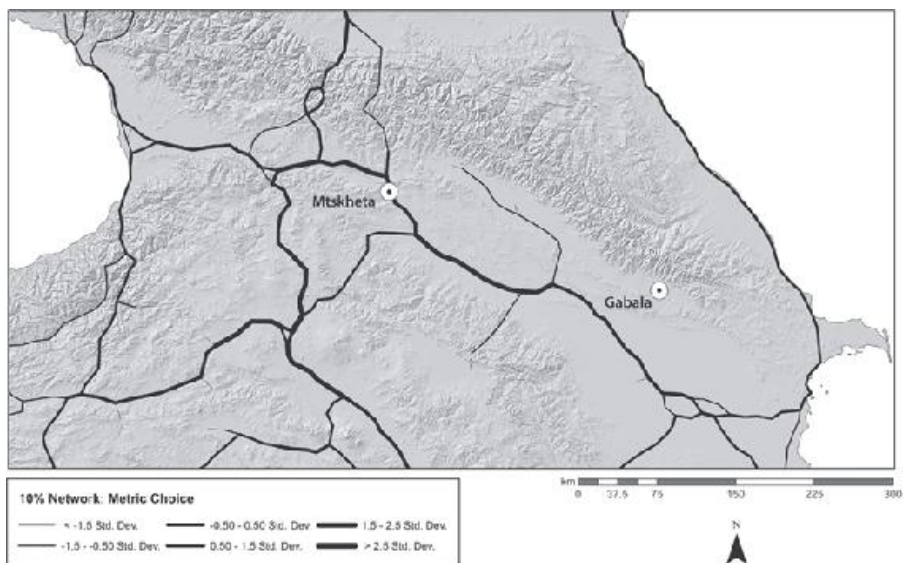


Figure 3.6. Metric choice calculated for the 10% network. Map credit: L. Fabian

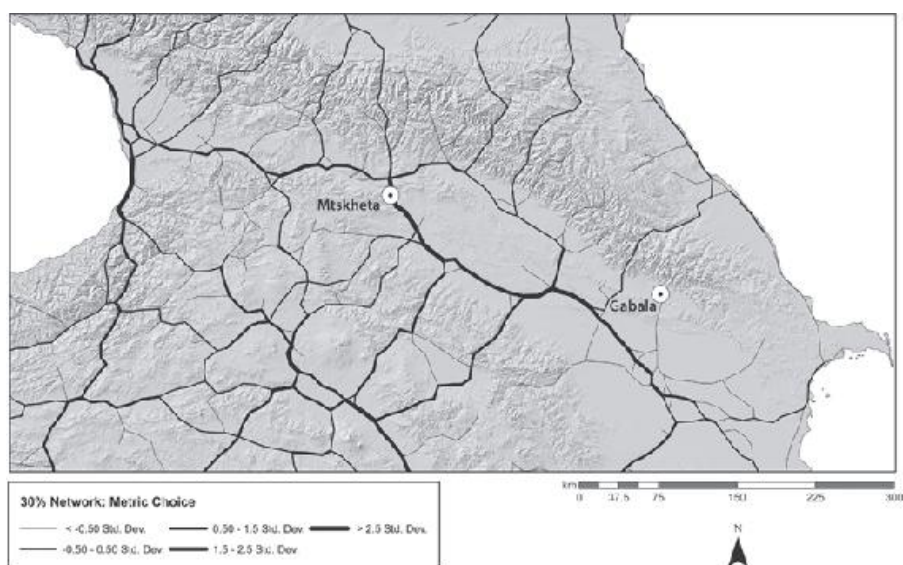


Figure 3.7. Metric choice calculated for the 30% network. Map credit: L. Fabian



Figure 3.8. Cumulative Cost Path network details central and eastern zones of northern South Caucasus. Map credit: L. Fabian

South Caucasus Numismatic Database

Scope of database: Coin hoards and mortuary deposits

For the purpose of this exploration, a subset of the numismatic data was compiled into a georeferenced database. The database includes two types of coin finds: (1) all hoards (any collection of two or more coins found collocated); and (2) all finds from mortuary contexts, including single finds. The database does not currently include single finds from non-mortuary archaeological contexts or stray finds

without recorded context.

I chose to focus on hoards and mortuary finds in response to the nature of the data. A preliminary analysis of the South Caucasus data demonstrated that graves were a central source of coin finds from the region. Of the 135 hoards, 39% come from secure mortuary contexts. Some of these mortuary hoards are quite large, with up to several dozen pieces.³²

Typically, numismatic material is dichotomised into hoards and single finds, with hoards understood as intentionally closed collections of coins taken out of monetary circulation and put away for future use.³³ Single finds are seen as accidentally lost pieces: the small change of the economic system, of such low value that they were not recovered by their owners after loss.³⁴

Although much work has gone into the development of more nuanced understandings of coin hoard structures and single finds,³⁵ critics have pointed out that the fundamental typological distinction between hoards and single coins is unstable. It is quantitative rather than intrinsically meaningful, and makes assumptions about coin value that may not always be accurate, particularly in cases where coins are used as ritual rather than (purely) economic objects.³⁶

Mortuary uses of coins present specific difficulties for the standard dichotomy.³⁷ Since all mortuary coin use (whether a single coin or a hoard) was intentional, the fundamental differentiation between a stray find and hoard is not applicable. Furthermore, unlike a 'typical' emergency or savings hoard, hoards deposited in tombs were certainly not intended for future use, at least not in the realm of the living. The contours of funerary deposits of coins have begun to receive attention in recent years, revealing extremely diverse practices extending far beyond the deposition of so-called Charon's obols.³⁸ There have not, to date, been any comprehensive analyses of mortuary numismatic deposits in the South Caucasus that would allow for a detailed discussion of the broader nature of the practice or how widespread it was in the region. But, as will be clear from the slice of data discussed below, material from the South Caucasus contributes to the emerging understanding of how complex and variable the practice was.

Numismatic data: sources and standards

Digitising numismatic data from the South Caucasus sources, and indeed any heritage numismatic data, presents difficulties related to

data quality as well as concordances between sources. The correct identification of accurate findspots is a particularly widespread problem and often requires trust in the reports of non-specialist finders and tracing a century of toponymic changes in a zone of fluctuating administrative systems and languages. Beyond these uncertainties, missing information about coin count and coin identification is common, especially for hoards discovered in the nineteenth and early twentieth centuries.

In order to be included in the database for the present analysis, a hoard or mortuary find minimally needed (1) a findspot at least at the level of an administrative district;³⁹ and (2) a description of the find including a total number of coins, as well as minting culture and metal type.⁴⁰ This relatively low standard means that many the coins in my database lack attribution to a specific authority, as well as metrological data. ⁴¹ Conversely, it also means that I have excluded coins belonging to hoards whose contents are vague or can't be verified, potentially leading to undercounting.

Database overview

The database contains 135 coin hoards composed of 4,708 coins, whose contents date the hoards to the Hellenistic and Roman-Arsacid periods, as well as an additional 116 single coins of the same periods from mortuary contexts (Fig. 3.9).

Coin finds from the territory represent every major minting culture and a wide variety of authorities (Fig. 3.10), and are for the most part silver (Fig 3.11). The earliest coins included in the database are Hellenistic issues, typically Seleucid tetradrachms, which are found across the entire zone at varying densities. Roman coins tend to be found in hoards on the Georgian coast and in the western South Caucasus, while Arsacid issues are more prevalent in hoards from the east – although there is significant overlap (Fig. 3.12.a and Fig. 3.12.b). There are also several pockets where locally minted pieces comprise a significant percentage of coins, particularly in Caucasian Albania. The average size of these hoards is 34 coins, but there is a high variance (Fig. 3.13). Seventy of the hoards contain five or fewer coins, with hoards from mortuary contexts tending to be smaller than those from non-mortuary or uncertain contexts.

From this broader coin database, I will discuss two clusters of numismatic activity spatially related to the capital cities of Caucasian Iberia and Caucasian Albania.

Numismatic networks

Votive hoards from Iberia

The first cluster of material comes from the territory of Caucasian Iberia (Fig. 3.14) and dates to the Roman-Arsacid period, roughly the first century BCE to the third century CE. As has already been discussed, this was a central place identified both in route selection frequency and network choice. Eighty-two hoards containing 499 coins and 84 single mortuary finds are recorded from the territory. Most of the material comes from three regions: the capital Mtskheta and the nearby towns of Agaiani and Nastakisi; sites in the foothills of the Lesser Caucasus near Zguderi; and sites in the foothills of the Greater Caucasus Ertso and Jinvali.⁴² The hoards are small, averaging a little over six coins per hoard, although some finds are considerably larger.⁴³ A comparison of hoard sizes from across the South Caucasus shows that large hoards are found more frequently on the eastern and western territorial limits, not in Iberia (Fig. 3.15). The small average hoard size in Iberia, which has been the subject of little discussion, relates partly to hoard context: 76 of the 82 hoards (93%) are securely attributed to graves, compared with only 39% of hoards across the whole database. One reason for the high frequency of mortuary hoards in Iberia lies in the strong tradition of archaeological fieldwork in the territory, and particularly long-running excavations at cemeteries that served as training grounds for generations of Georgian archaeologists.⁴⁴ Hence the overrepresentation of mortuary finds is in part an artefact of modern data collection rather than ancient numismatic practice.

This tradition of fieldwork, however, does not explain the absence of large non-mortuary hoards. Given the centrality of the zone within the route network and its importance in historical sources, as well as the elaborate architectural remains uncovered at nearby sites like Armazi and Dzalisi, it is noteworthy that so few large, non-votive hoards have been found from the region.⁴⁵

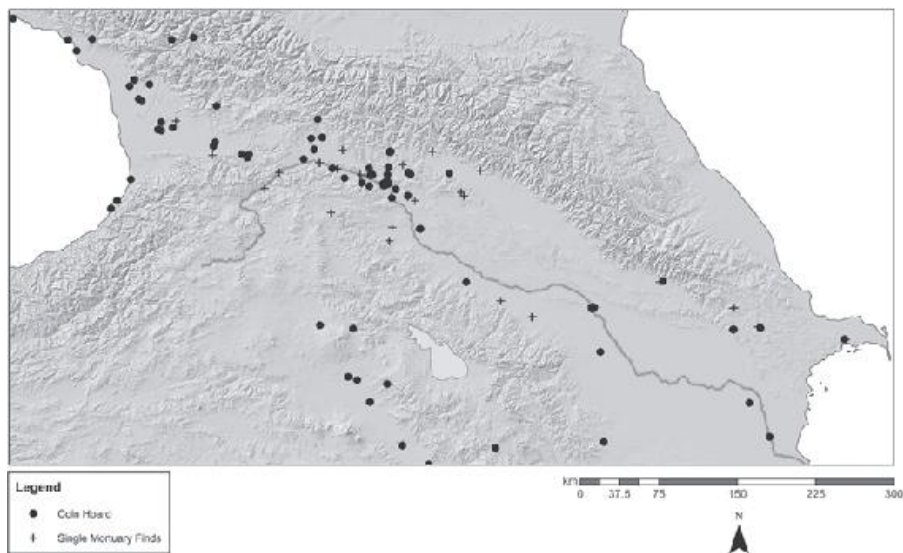


Figure 3.9. Locations of all coin hoards and single mortuary finds from database. Map credit: L. Fabian

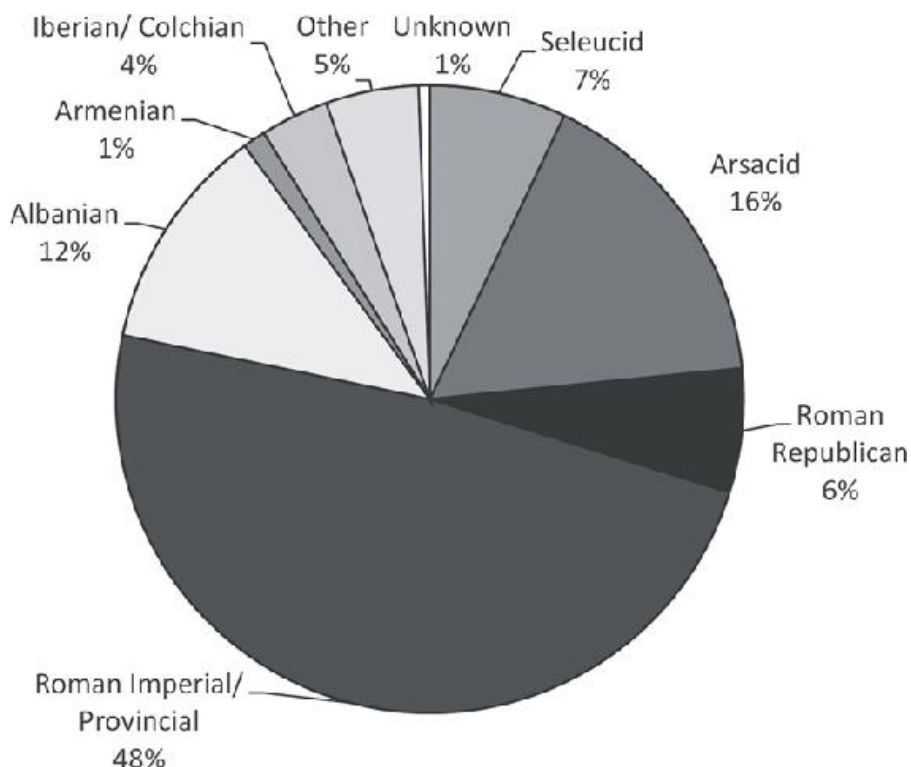


Figure 3.10. Minting powers present in hoards and mortuary finds (by coin count). Chart credit: L. Fabian

The mortuary finds date primarily to the first century BCE and later, making them later than the hoards from Albania to be discussed shortly. Arsacid and Roman coins are well represented, with Armenian and locally minted pieces also appearing (Fig. 3.16). Mixed hoards, containing coins from more than one minting culture, are common (Fig. 3.17). More work is needed to determine whether there are meaningful patterns in the co-use of Roman and Arsacid material (choice of coins, preferential use of one culture or the other, etc.). The presence of mixed burial assemblages, however, suggests that coins from the two cultures were seen as conceptually similar. It is impossible to speculate about whether this carried over into economic coin use patterns on the basis of these deposits, however, since coins used in the burials may have been selected specifically for tomb use and therefore not mirror everyday circulation.⁴⁶

Gold coins occur at a high frequency within the mortuary material from Iberia, although gold coins are rare within tomb deposits in the Greek and Roman worlds more generally.⁴⁷ In Iberia, 62 of the 543 coins deposited in tombs are gold (11%), while database-wide there are only 150 gold pieces (3%).⁴⁸ There has been speculation that different pathways brought silver and gold coins into extra-imperial contexts, with gold pieces more likely to enter as diplomatic gifts; in the later European *barbaricum*, the presence of repurposed gold coins and gold medallions is interpreted as part of a prestige gift-exchange system.⁴⁹ A similar explanation could account for some of the gold coins in Iberian mortuary contexts.

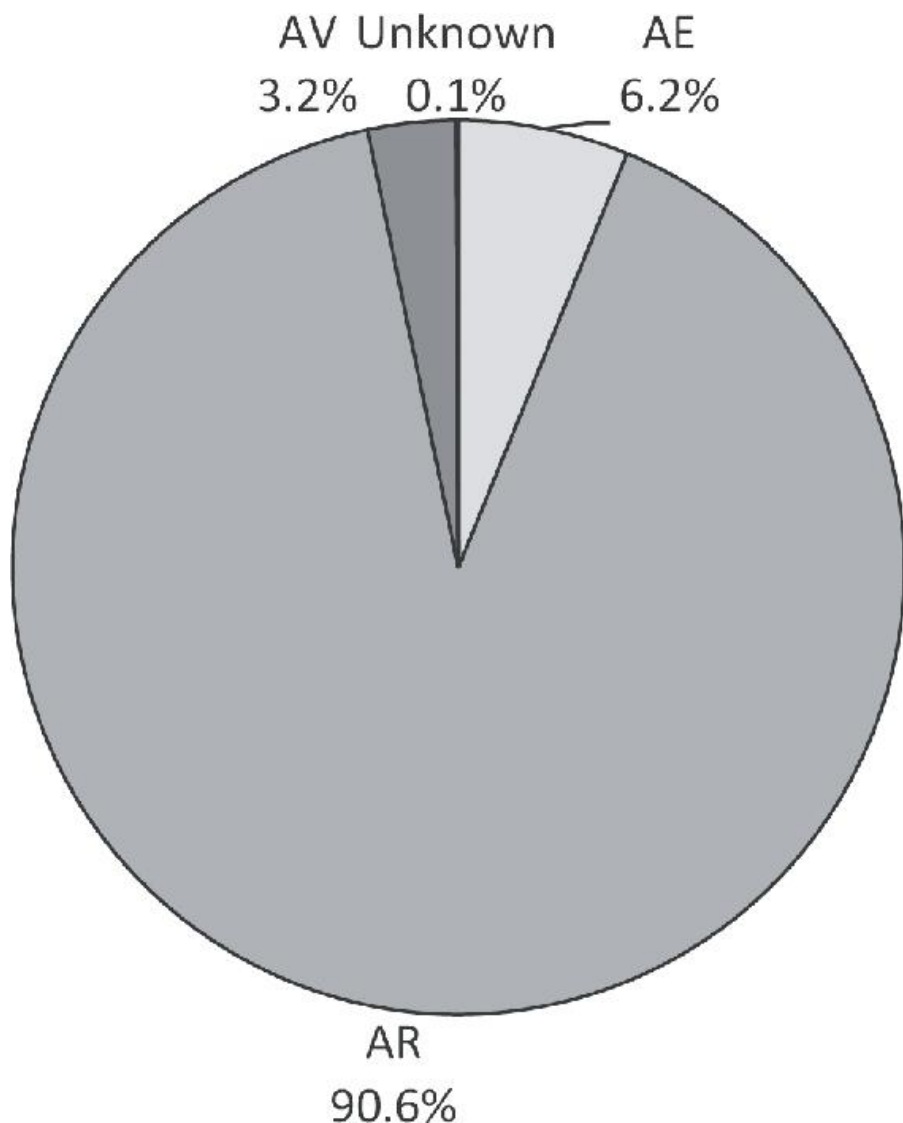


Figure 3.11. Metal composition of hoards and mortuary finds (by coin count). Chart credit: L. Fabian

The cemeteries of Iberia contain not only imported gold pieces, however, but also locally minted ones. Of the 62 gold coins from Iberian mortuary contexts, one is Hellenistic, 42 are Roman and nineteen are local, mostly imitation staters with several imitation aurei.⁵⁰ The imitation staters, divided into Alexander and Lysimachus subtypes, were minted from the second century BCE through to the first century CE, by unknown authorities and at unknown locations somewhere within modern Georgia.⁵¹ They range in weight from 1.7

to 7.9 g⁵² – a very high variance that argues against a straightforward fiduciary use. In any case, the frequent presence of gold, both imported and local, in funerary contexts (and occasionally repurposed as items of personal adornment) suggests that the metal had a particular function within the local burial custom, although the coins likely served an economic purpose in daily life as well.

Further contextual analysis of the cemeteries of Iberia is needed to parse the meaning of the funerary coin deposits. Nevertheless, the heterogeneous numismatic material of the zone makes clear that participants in this community took advantage of their central position within the wider geographic network, involving themselves in systems of exchange that gave access to both east and west. While the Iberian numismatic community drew on both materials and practices from neighbouring zones, however, it was not simply an extension of one imperial system or another. Instead, this numismatic network was a local configuration in which ritual use of coins played a central role.

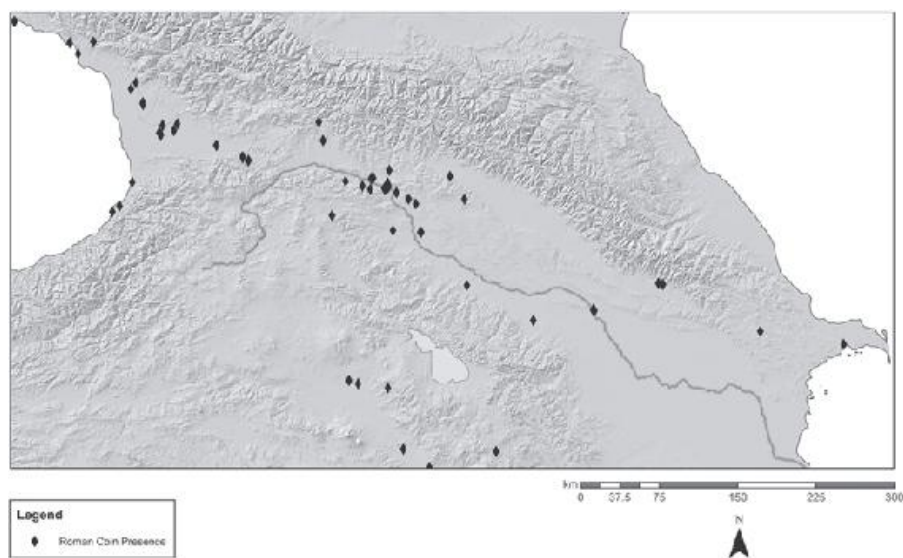


Figure 3.12.a. Roman coins in database. Map credit: L. Fabian

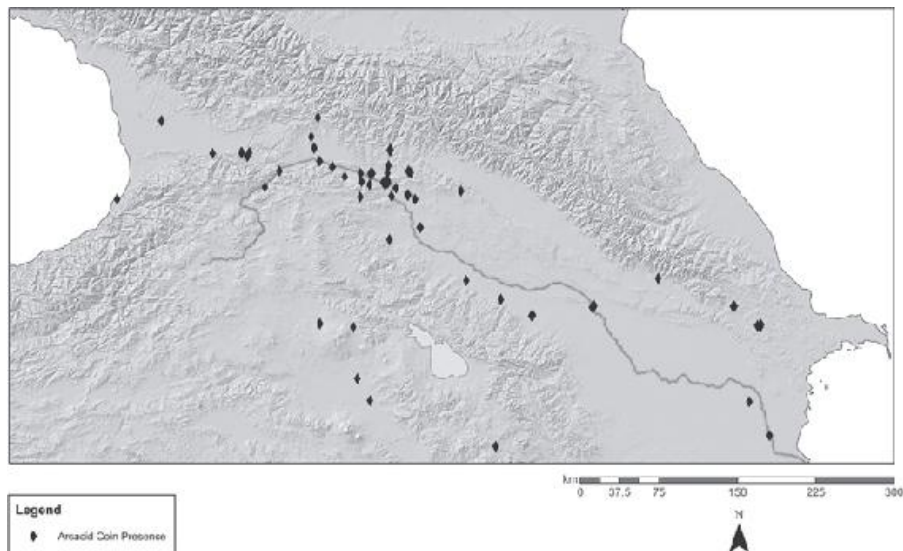


Figure 3.12.b. Arsacid coins in database. Map credit: L. Fabian

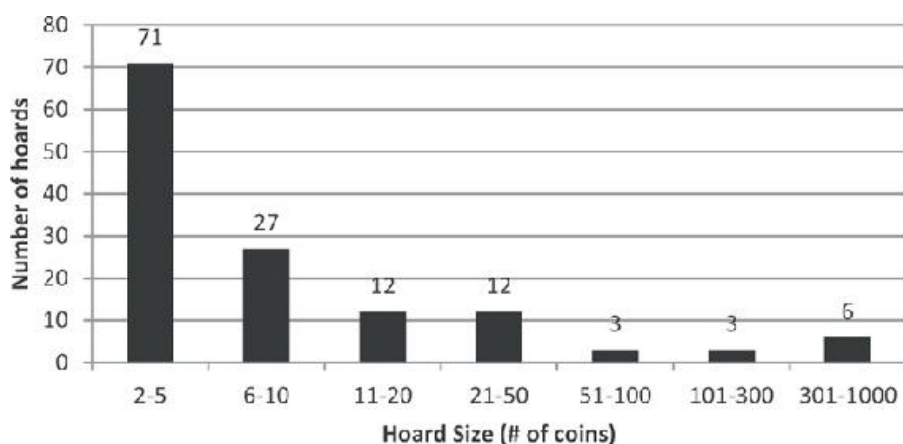


Figure 3.13. Sizes of coin hoards in database. Graph credit: L. Fabian

A zone of local minting in Albania

Turning to the east, the local numismatic networks are rather different. Coin finds from the modern nation of Azerbaijan are more limited than those from Georgia. However, archaeological explorations have been much less intensive in Azerbaijan – so we should expect less material. Thirteen hoards are recorded from the modern territory of Azerbaijan containing 1,158 coins, with an average size of 89 coins (Fig. 3.18). The coins from the region tend to be earlier than those from Iberia. These hoards and single mortuary finds can be separated into two broad groups: those from the Kura-

Aras lowlands, and those from the foothills of the Greater Caucasus, near Gabala.

From the Kura-Aras lowlands come the coins and hoards discovered at the site of Mingchevir, where rescue excavations in the late 1940s uncovered a cemetery with small votive hoards that resemble those from Iberia, although they lack gold and comprised a much smaller proportion of the local coin network.⁵³ To these can be added a Hellenistic hoard from Barda,⁵⁴ as well as two hoards of exclusively Arsacid coins discovered in the Mugan Steppe.⁵⁵ Kura-Aras lowland coins are found in close proximity to cumulative cost path travel-attracting routes along the Kura valley, also identified in the 30% and 10% choice network as a region of high through-movement. This riverine route has been suggested as the path by which Arsacid coins from Ecbatana entered the South Caucasus from Atropatene,⁵⁶ and the presence of travel-attracting routes supports this hypothesis.

The foothills, on the other hand, are remote from travel-attracting corridors and not a space of high through-movement, according to syntactic analysis. This territory has a unique numismatic profile within the South Caucasus, although the sample size is small. Four hoards totalling 954 coins, as well as several single coins from mortuary contexts, come from this zone. Each of the four hoards contains locally minted coins – mostly drachms – which comprise 63% of the total coin count (Fig. 3.19). These locally minted drachms appear to have played a significant economic role in the second and first centuries BCE.⁵⁷

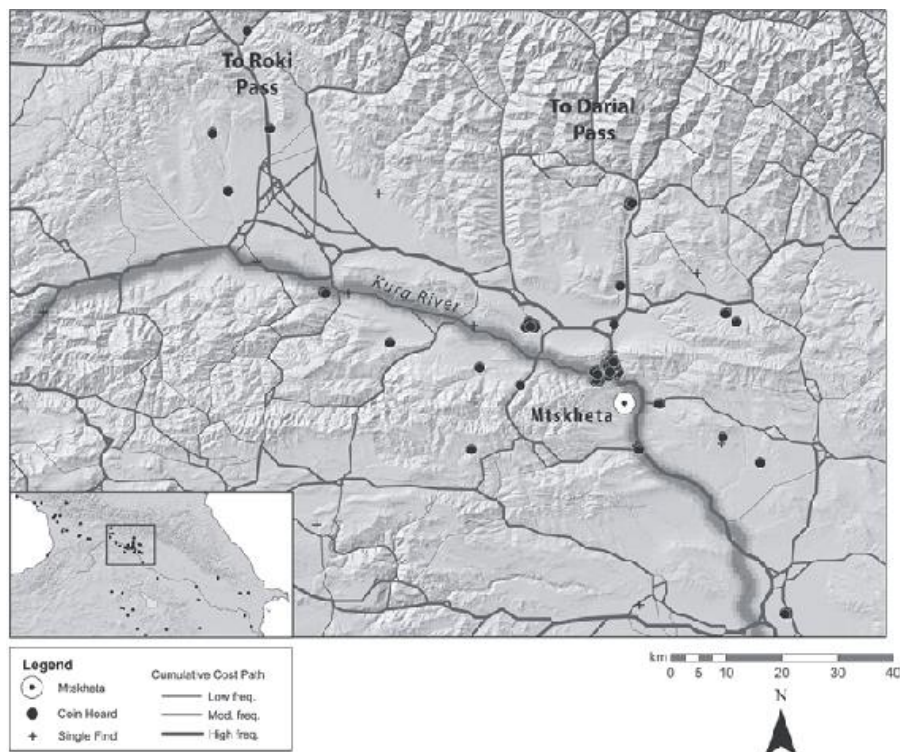


Figure 3.14. Central South Caucasus coin finds detail, shown with ranked Cumulative Cost Paths. Map credit: L. Fabian

The bulk of these local drachms are best called ‘perfunctory imitations’ of drachms of Alexander III,⁵⁸ with simplified iconography but a general adherence to a weight standard.⁵⁹ They are thought to have been minted between the third and first centuries BCE. ⁶⁰ Unlike the imitation Alexander staters from Iberia and Colchis, these are low-denomination coins and appear in large numbers in large hoards. A broad parallel can, perhaps, be found in the more abundant imitative coinage of Arabia.⁶¹

The best-documented hoard from the region, Gabala hoard #1,⁶² was found in the course of excavations near the site in 1966. It is composed largely of second-century BCE Seleucid tetradrachms, several Arsacid drachms, as well as four local tetradrachms and 436 local drachms. It is believed to have a closing date in the late second century BCE or possibly the early first century BCE. Metrological data allow for a consideration of the weight standard of local imitations, which shows an ideal minting weight of about 3.3 or 3.4 g (Fig. 3.20), allowing co-circulation with Arsacid drachms.

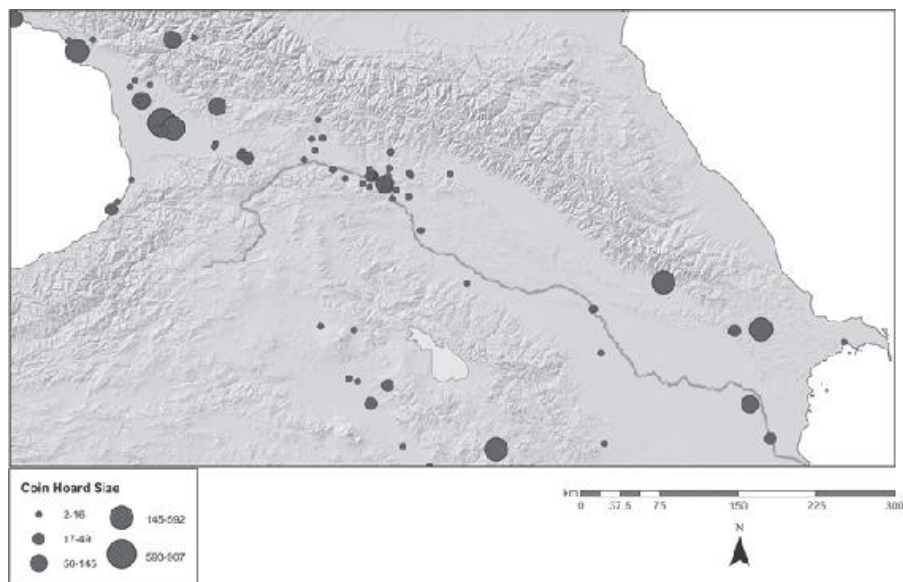


Figure 3.15. All coin hoards displayed by hoard size. Map credit: L. Fabian

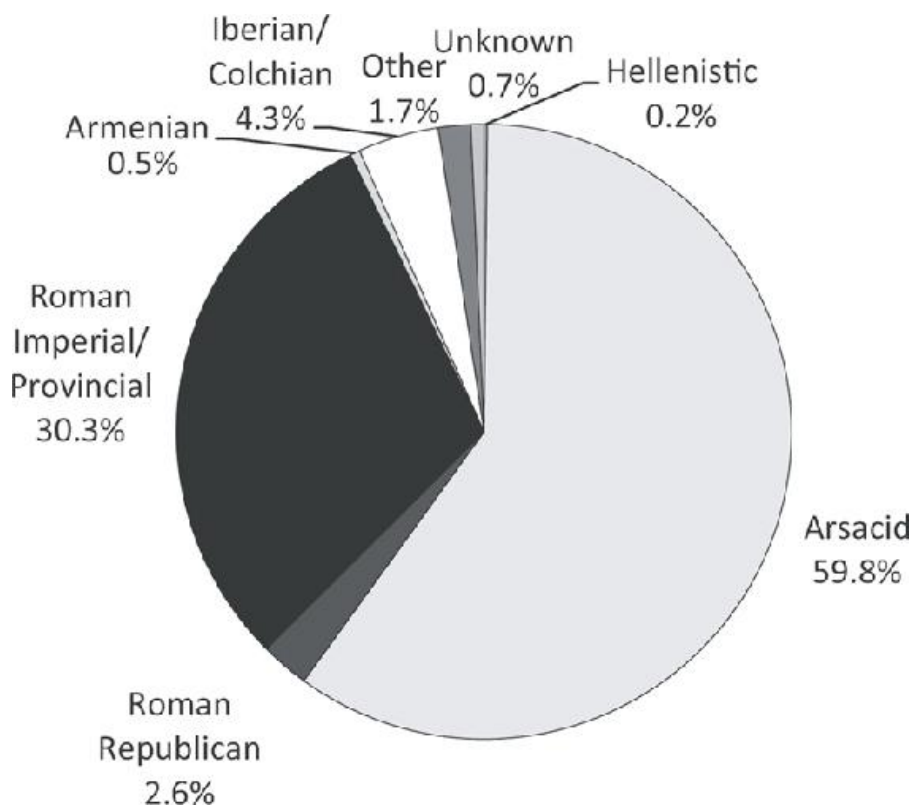


Figure 3.16. Minting powers present in Iberian hoards and mortuary finds (by coin count). Chart credit: L. Fabian

There is weight data for a further 72 locally minted drachms from the Khinisli hoard, found in 1958.⁶³ These coins complicate the picture since they are significantly lighter than those of the Gabala hoard and do not exhibit the typical histogram of coins minted *al pondo* (Fig. 3.21). The closing date of the hoard is thought to be somewhat later, given the presence of a Roman republican denarius as well as a drachm of Phrates III,⁶⁴ which might explain the weight differences as a product of temporal evolution. An additional 36 locally minted drachms are known from a hoard discovered in tomb #22 at the site of Nuydi, while burial #47 at the site contained a hoard comprising a local imitation and drachm of Mithridates II, and burial #11 contained a further single local coin. No weight data have been published for any of the Nuydi pieces.⁶⁵ Another local drachm was discovered, possibly in conjunction with a Roman denarius, at Ialoilu-tepe in 1926,⁶⁶ while a further example is known from a hoard discovered in Artashat, Armenia, in 1972.⁶⁷

The presence of locally minted coins, of course, does not mean that coined money was the only form of exchange in the zone – indeed, both bronze bracelets and cowry shells are found in conjunction with coins in burials, and it has been postulated that these items constituted an important part of the local exchange system.⁶⁸ But the widespread presence of local low-denomination coin suggests that the minting authority in the territory was interested in engaging directly with economic markets in the Hellenistic period and knew how to accomplish this. It also demonstrated that the development of such a numismatic network was not dependent on major trunk routes.

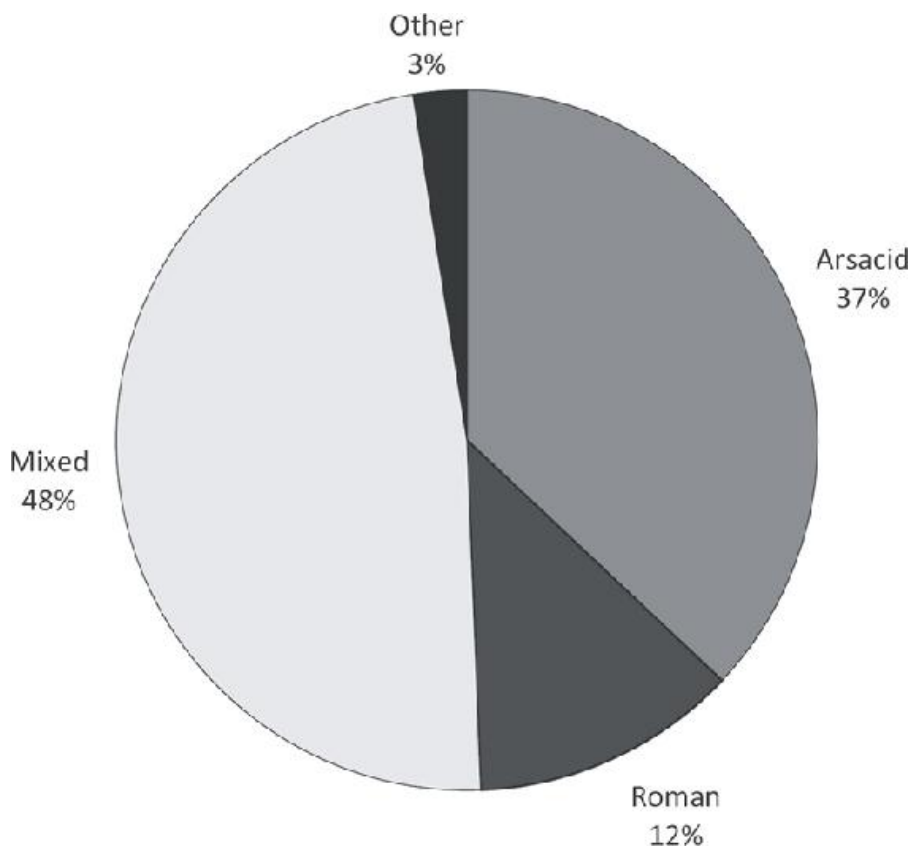


Figure 3.17. Hoard composition of Iberian hoards. Chart credit: L. Fabian

Ironically, the key to Gabala's strategic importance might be the same feature that impedes overland travel, therefore lowering its profile in the LCP analysis – its rugged foothills. Ancient textual sources suggest that Albania's importance (in Mediterranean eyes, at least) came from its position as a gatekeeper between the Near East and the Sarmatian communities of the North Caucasus – between mobile pastoralists and settled populations.⁶⁹ In fact, Gabala's seemingly isolated geographic disposition, straddling lowlands and highlands along the slopes of the Greater Caucasus, situated it as an ideal mediator between these groups, and may have contributed to its early growth in the wake of the dissolution of the Achaemenid empire.

Conclusions

The Caucasus is a dynamic zone for exploring diffusions of social, political and economic practice at the edge of Hellenistic and Roman space. The region was a complex frontier, and its archaeological traces

often fail to conform to paradigms imported from imperial centres. Network approaches give us both methodological tools and a vocabulary for discussing the logistics of interaction in this space. The route network provides an alternative view of the territory that prioritises movement and connectivity. It augments existing understandings of the zone's territorial logic, and suggests underlying structural characteristics that contributed to intraregional variation. It is clear, for example, that Iberia and Albania occupied different network niches, with Iberia's capital situated at a key juncture for through-movement, while Albania's was almost intentionally remote.

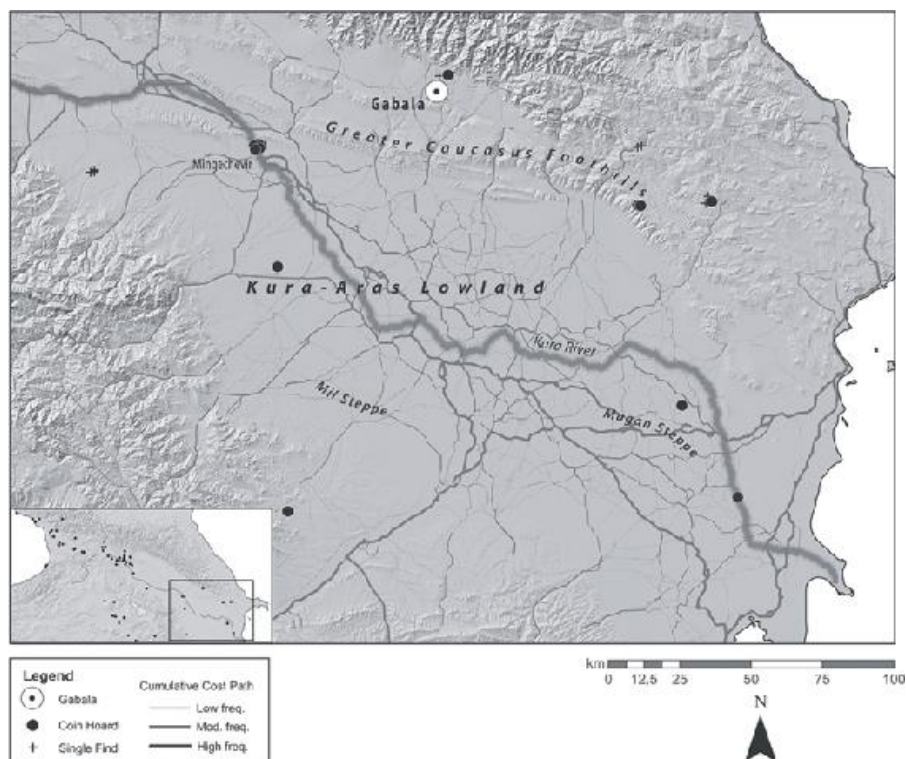


Figure 3.18. Eastern South Caucasus coin finds detail, shown with ranked Cumulative Cost Paths. Map credit: L. Fabian

The route network itself, however, is not a straightforward explanatory tool. It models a certain type of movement detectable by Least Cost Path (LCP) analysis, and may be missing other patterns of human movement, like seasonal transhumance. By layering numismatic data onto this route network, we contrast the predicted patterns of movement with an archaeological dataset. The resultant granular ‘monetary topographies’ highlight local communities of

practice on the basis of both material and spatial characteristics, bringing attention to the innovative local adoption of coin use. The integration of coins and routes also allows us to pinpoint regions where the numismatic data conforms to expected patterns – as in Iberia, where the confluence of central routes correlates to a diversity of available coinage – and where it fails to conform, as in the case of Albania, where a robust coinage community developed in the absence of central travel routes.

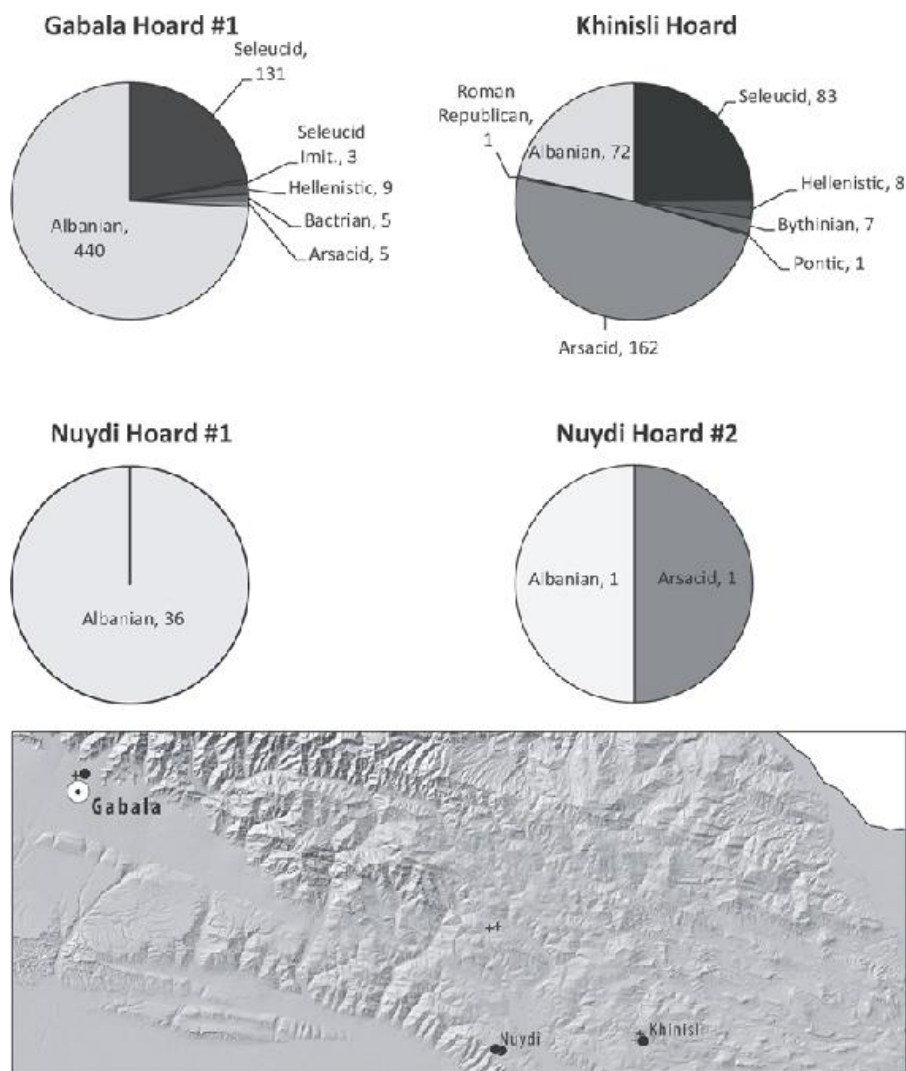


Figure 3.19. Greater Caucasus foothills hoards. Hoard compositions (top) and findspots (bottom). Map credit: L. Fabian

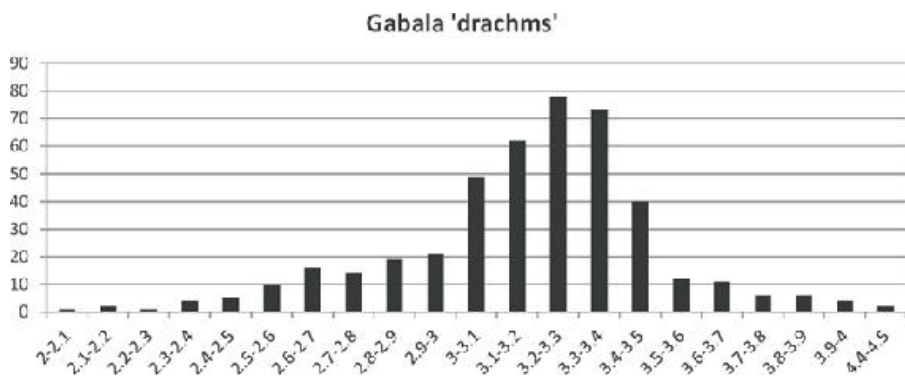


Figure 3.20. Weight histogram (in grams) of drachms from the Gabala hoard. Image credit: L. Fabian, based on data from Babaev and Kaziev (1971).

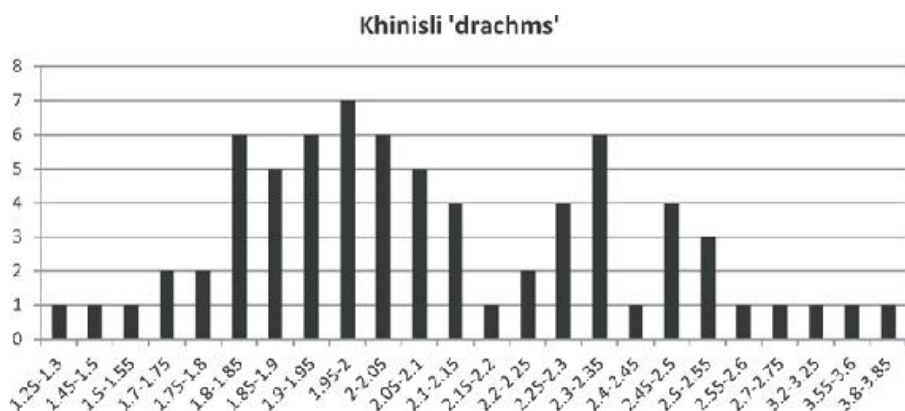


Figure 3.21. Weight histogram (in grams) of drachms from the Khinisli hoard. Image credit: L. Fabian, based on data from Pakhomov (1963).

We know practically nothing about the Albanian authorities responsible for the imitation drachms, and only a little more about their Iberian neighbours. Concrete interpretations of the varying aims of these groups on the basis of the sparse numismatic data is, therefore, exceedingly speculative. But even if we consider only the locally minted pieces from the two zones, the contrasts are clear. On the one hand, the low-denomination Albanian coinage, with its early fluorescence and high representation within the local sample, suggests the minting of coins with the express goal of creating a recognisable instrument of exchange, which was then perhaps gradually supplanted by increasingly available Arsacid issues. In contrast, the smaller number of high-value emissions of Iberia never appear to have dominated the local market, but may have instead played a role in the articulation of status, while also maintaining a clear economic value.

Considered more broadly, the numismatic networks from Iberia and Albania present two contrasting examples of local adoption of ‘the numismatic habit’, differing in time, scope and perhaps purpose. Although these local numismatic networks were built out of the same raw materials – coins – they had radically different characters. These numismatic networks, after all, are the traces of complex social systems that were shaped by interactions with imperial powers, but that ultimately reflected the interests of local users.

Notes

1 The most complete ancient source for the geography of Iberia and Albania is Strabo, xi.3.1–4.8.

2 For recent English and German overviews of written and archaeological evidence concerning Iberia, see O. Lordkipanidze, “Introduction to the History of Caucasian Iberia and Its Culture of the Achaemenid and Post-Achaemenid Periods,” *Archäologische Mitteilungen aus Iran und Turan* 32 (2000): 3–19; O. Lordkipanidze, *Archäologie in Georgien: Von der Altsteinzeit bis zum frühen Mittelalter* (Weinheim: VCH, 1991); G. R. Tsetskhladze, “Ancient West and East: Mtskheta, Capital of Caucasian Iberia,” *Mediterranean Archaeology* 19/20 (2008): 75–107; D. Braund, *Georgia in Antiquity: A History of Colchis and Transcaucasian Iberia, 550 BC–AD 562* (Oxford: Clarendon Press, 1994).

3 Concerning the textual history and archaeology of Caucasian Albania, see I. A. Babaev, “Excavations of Communal Buildings (Fourth Century BC–First Century AD) at Gabala, the Capital of Caucasian Albania,” in *The Royal Palace Institution in the First Millennium BC: Regional Development and Cultural Interchange between East and West*, ed. I. Nielsen (Aarhus: Aarhus University Press, 2001), 285–294; I. A. Babaev, *Goroda Kavkazskoi Albanii v IV v. do n.e.–III v. n.e. [The Cities of Caucasian Albania from the fourth century BCE to the third century CE]* (Baku: Elm, 1990); F. L. Osmanov, *Istoriia i kul'tura Kavkazskoi Albanii: IV v. do n.e.–III v. n. e (na osnovanii arkeologicheskikh materialov) [History and Culture of Caucasian Albania: fourth century BCE–third century CE (On the Basis of Archaeological Material)]* (Baku: Takhsil, 2006); M. Bais, *Albania caucasica: Ethnos, storia, territorio attraverso le fonti greche, latine e armene* (Milan: Mimesis, 2001); K. V. Trever, *Ocherki po istorii i kul'ture Kavkazskoi Albanii: IV v. do n.e.–VII v. n.e. [Studies on the History and Culture of Caucasian Albania: fourth century BCE–seventh century CE]* (Moscow: Izdatel'stvo Akademii nauk CCCP, 1959).

4 Babaev, *Goroda Kavkazskoi Albanii*, 45; Braund, *Georgia in Antiquity*, 141.

5 C. Knappett, “Introduction: Why Networks?” in *An Archaeology of Interaction: Network Perspectives on Material Culture and Society*, ed. C. Knappett (Oxford: Oxford University Press, 2011), 3–16.

6 T. Brughmans, “Thinking Through Networks: A Review of Formal Network Methods in Archaeology,” *Journal of Archaeological Method and Theory* 20(4) (2012), 623–662.

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8 N. Dudwick, “The Case of the Caucasian Albanians: Ethnohistory and Ethnic Politics,” *Cahiers du monde russe et soviétique* (1990), 377–383; V. A. Shnirelman, *The Value of the Past: Myths, Identity and Politics in Transcaucasia* (Osaka: National Museum of Ethnology, 2001).

9 See for example N. B. Aitchison, “Roman Wealth, Native Ritual: Coin Hoards within and beyond Roman Britain,” *World Archaeology* 20(2) (1988), 270–284; A. Bursche, “Function of Roman Coins in Barbaricum of Later Antiquity: An Anthropological Essay,” in *Roman Coins Outside the Empire: Ways and Phases, Contexts and Functions*, ed. A. Bursche, R. Ciolek, and R. Wolters, Collection Moneta 82 (Wetteren: Moneta, 2008), 395–416.

10 T. Bell and G. Lock, “Topographic and Cultural Influences on Walking the Ridgeway in Later Prehistoric Times,” in *Beyond the Map: Archaeology and Spatial Technologies*, ed. G. Lock, (IOS Press, 2000), 85–100; J. Conolly and M. Lake, *Geographical Information Systems in Archaeology* (Cambridge: Cambridge University Press, 2006); M. De Silva and G. Pizziolo, “Setting up a ‘Human Calibrated’ Anisotropic Cost Surface for Archaeological Landscape Investigation,” in *Computing Archaeology for Understanding the Past. Computer Applications and Quantitative Methods in Archaeology. Proceedings of the 28th Conference, Ljubljana, April 2000*, ed. Z. Stančič and T. Veljanovski (Oxford: Archaeopress, 2001), 279–287; S. L. Surface-Evans and D. A. White, “An Introduction to the Least Cost Analysis of Social Landscapes,” in *Least Cost Analysis and Social Landscapes: Archaeological Case Studies*, ed. D. A. White and S. L. Surface-Evans (Salt Lake City, UT: University of Utah Press, 2012), 1–10.

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12 I. Herzog, “Least-Cost Networks,” in *Archaeology in the Digital Era: Papers from the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA)*, ed. G. Earl, T. Sly, A. Chrysanthi, P. Murrieta-Flores, C. Papadopoulos, I. Romanowska and D. Wheatley (Amsterdam: Amsterdam University Press, 2013), 237–248; M. Llobera, P. Fábrega-Álvarez, and C. Parcero-Oubiña, “Order in Movement: A GIS Approach to Accessibility,” *Journal of Archaeological Science* 38(4) (2011), 843–851; P. Murrieta-Flores, “Understanding Human Movement through Spatial Technologies. The Role of Natural Areas of Transit in the Late Prehistory of South-Western Iberia,” *Trabajos de Prehistoria* 69(1) (2012), 103–122; P. Verhagen, “On the Road to Nowhere? Least Cost Paths, Accessibility and the Predictive Modelling Perspective,” in *Computer Applications and Quantitative Methods in Archaeology: Proceedings of the 38th Annual Conference on Computer Applications and Quantitative Methods in Archaeology (CAA)*, ed. F. C. Cortes, M. Farjas, and F. J. Melero (Oxford: Archaeopress, 2013), 383–390; P. Verhagen, T. Brughmans, L. Nuninger and F. Bertonecello, “The Long and Winding Road: Combining Least Cost Paths and Network Analysis Techniques for Settlement Location Analysis and Predictive Modelling,” in *Archaeology in the Digital Era: Papers from the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA)*, ed. G. Earl, T. Sly, A. Chrysanthi, P. Murrieta-Flores, C. Papadopoulos, I. Romanowska and D. Wheatley (Amsterdam: Amsterdam University Press, 2013), 357–366; D. A.

White and S. B. Barber, "Geospatial Modeling of Pedestrian Transportation Networks: A Case Study from Precolumbian Oaxaca, Mexico," *Journal of Archaeological Science* 39(8) (2012), 2684–2696; T. G. Whitley and G. Burns, "Conditional GIS Surfaces and Their Potential for Archaeological Predictive Modelling," in *Layers of Perception. Proceedings of the 35th International Conference on Computer Applications and Quantitative Methods in Archaeology (CAA)*, ed. A. Posluschny, K. Lambers, and I. Herzog (Bonn: Dr. Rudolf Habelt GmbH, 2008), 292–298.

13 The study area includes both the Greater and Lesser Caucasus mountain ranges with elevations of up to 5,642 m. Elevations were drawn from a three arc-second SRTM DEM provided by the USGS, which was resampled to a resolution of 200 m because of processing limitations.

14 Both the coarseness of the resolution and the wide spacing of sample points have clear ramifications for the granular use of path data and precise path accuracy, but given the current interest in wide patterns of movement in the zone, these are not central concerns of the present study. Furthermore, an analysis conducted on a subset of the study area using a finer grid and sample points spaced at five kilometres identified the same primary routes within the zone as the coarse grid and 50-km point spacing, giving further support to the scale of analysis used here. But, for concerns, see J. Kantner, "Realism, Reality, and Routes: Evaluating Cost-Surface and Cost-Path Algorithms," in *Least Cost Analysis and Social Landscapes: Archaeological Case Studies*, ed. S. L. Surface-Evans and D. A. White (Salt Lake City, UT: University of Utah Press, 2012), 225–238.

15 Generated using ArcGIS Path Distance tool.

16 W. Tobler, *Three Presentations on Geographical Analysis and Modeling* (Santa Barbara, CA: NCGIA, 1993).

17 J. Jenness, *Topographic Position Index (tpi_jen.avx) Extension for ArcView 3.x, v.1.3a* (Flagstaff, AZ: Jenness Enterprises, 2006).

18 This was factored into the analysis as a cost surface in the Path Distance tool, along with major hydrological features (lakes) that prevented overland movement. When mountain passes were not factored in, all traffic flowed to the coastal paths – a scenario that does not reflect ethnographic accounts of movement in the zone.

19 Given the harsh winters of the Caucasus, this underlying issue of seasonality deserves further attention.

20 The LCPs were generated using ArcGIS Flow Accumulation tool. For each destination point, this created in a LCP raster grid with values from 1 to 517, corresponding to how many of the LCP's traversed a specific grid square.

21 The values of the cumulative cost path map range from 0 to 33,494 – corresponding to the total number of times that a LCP ran through a given grid square.

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23 B. Hillier and S. Iida, "Network and Psychological Effects in Urban Movement," in *Spatial Information Theory*, ed. A. G. Cohn and D. M. Mark, Lecture Notes in Computer Science 3693 (Berlin; Heidelberg: Springer, 2005), 475–490.

24 Verhagen et al., "The Long and Winding Road."

25 Ibid., 359.

26 Following an 80/20 rule of scale-free event distribution has been more common for studies of this type, see Verhagen et al., “The Long and Winding Road”; Whitley and Burns, “Conditional GIS Surfaces,” 2688. However, in this case, 30% was the threshold for a network that contained meaningful edges spanning the Greater Caucasus, and was therefore deemed to be more appropriate.

27 B. Hillier and J. Hanson, *The Social Logic of Space* (Cambridge: Cambridge University Press, 1984); A. Turner, *Depthmap 4. A Researcher's Handbook* (London: Bartlett School of Graduate Studies, University College London, 2004).

28 B. Hillier, T. Yang, and A. Turner, “Normalising Least Angle Choice in Depthmap – and How It Opens up New Perspectives on the Global and Local Analysis of City Space,” *Journal of Space Syntax* 3(2) (2012), 155.

29 Ibid., 156.

30 J. Collis, “A Typology of Coin Distributions,” *World Archaeology* 13(1) (1981), 122–128; J. Davies, “A Survey of Roman Coin Distribution on the Frontier with Free Germany,” *Saalburg Jahrbuch* 39 (1983), 133–141; K. Lockyear, “Multivariate Money: A Statistical Analysis of Roman Republican Coin Hoards with Special Reference to Material from Romania” (London: University of London, 1996), 389.

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32 For example, see E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugih respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan other Republics, Borders and Territories of the Caucasus]*, vol. 6 (Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR, 1954), n. 1738.

33 P. J. Casey, *Understanding Ancient Coins: An Introduction for Archaeologists and Historians* (London: BT Batsford, 1986), 55; see also M. Crawford, “Coin Hoards and the Pattern of Violence in the Late Republic,” *Papers of the British School at Rome* 37 (1969), 76–81.

34 D. P. Newton, “Found Coins as Indicators of Coins in Circulation: Testing Some Assumptions,” *European Journal of Archaeology* 9(2–3) (2006), 213.

35 On coin hoards, see Crawford, “Coin Hoards and the Pattern of Violence in the Late Republic”; A. S. Robertson, “Romano-British Coin Hoards: Their Numismatic, Archaeological and Historical Significance,” in *Coins and the Archaeologist*, ed. J. Casey and R. Reece, 2nd ed. (London: Seaby, 1988), 13–38; On single finds, see R. Reece, “The Interpretation of Site Finds- a Review,” in *Coin Finds and Coin Use in the Roman World: The Thirteenth Oxford Symposium on Coinage and Monetary History*, ed. C. E. King and D. G. Wigg,

vol. 10, Studien zu Fundmünzen der Antike (Berlin: Gebr. Mann Verlag, 1996), 341–356.

36 Aitchison, “Roman Wealth, Native Ritual,” 271.

37 M.-R. Alföldi, “Münze im Grab, Münze am Grab: Ein ausgefallenes Beispiel aus Rom,” in *Coin Finds and Coin Use in the Roman World: The Thirteenth Oxford Symposium on Coinage and Monetary History*, ed. C. E. King and D. G. Wigg, vol. 10, Studien zu Fundmünzen der Antike (Berlin: Gebr. Mann Verlag, 1996), 33–39.

38 L. Brown, “Charon’s Obol? An Archaeological Study of the Role of Coins in Roman Burial Ritual (with Case Studies from Roman Italy, Germany, Britain and Unconquered Scandinavia)” (Doctoral thesis, University of Edinburgh, 2013); R. Cantilena, ed., “Un obolo per Caronte?,” *Parola del Passato* 50 (1995), 165–177; J.-M. Doyen, “The ‘Charon’s Obol’: Some Methodological Reflections,” *Journal of Archaeological Numismatics* 2 (2012), i–xviii; O. F. Dubuis, S. Frey-Kupper, and G. Perret, eds., *Trouvailles monétaires de tombes: actes du deuxième colloque international du Groupe suisse pour l’étude des trouvailles monétaires, Neuchâtel, 3-4 mars 1995* (Lausanne: Editions du Zèbre, 1999); S. T. Stevens, “Charon’s Obol and Other Coins in Ancient Funerary Practice,” *The Phoenix* (1991), 215–229.

39 In cases where an exact findspot was not listed at the village level, coins were assigned a coordinate based on the centre of the district in which they were found.

40 Total coin counts may not reflect total number of coins from the hoard as originally deposited, but it does provide a comparable foundation for the purposes of quantification.

41 The work of Evgeni Alexandrovich Pakhomov forms the backbone of my South Caucasus numismatic database. Pakhomov wrote a nine-volume survey of coin finds that could be attributed to a specific findspot within the Caucasus through 1966, E. A. Pakhomov, *Monetnye klady Azerbaidzhana i Zakavkaz’ia [Coin Hoards of Azerbaijan and Transcaucasia]*, vol. 1 (Baku: Izdanie Obshchestva Obsledovaniia i Izucheniia Azerbaidzhana, 1926); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik i kraev Kavkaza [Hoards of Azerbaijan and Other Republics and Borderzones of the Caucasus]*, vol. 2 (Baku: Izdatel’stvo Azerbaidzhanskogo Filiala Akademii nauk SSSR, 1938); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus]*, vol. 3 (Baku: Izdatel’stvo Azerbaidzhanskogo Filiala Akademii nauk SSSR, 1940); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus]*, vol. 4 (Baku: Izdatel’stvo Akademii nauk Azerbaidzhanskoi SSR, 1949); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus]*, vol. 5 (Baku: Izdatel’stvo Akademii nauk Azerbaidzhanskoi SSR, 1949); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus]*, vol. 6 (Baku: Izdatel’stvo Akademii nauk Azerbaidzhanskoi SSR, 1954); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza [Coin Hoards of Azerbaijan Other*

Republics, Borders and Territories of the Caucasus], vol. 7 (Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR, 1957); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza* [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus], vol. 8 (Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR, 1959); E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik, kraev i oblastei Kavkaza* [Coin Hoards of Azerbaijan Other Republics, Borders and Territories of the Caucasus], vol. 9 (Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR, 1966). My database also includes material from other regional survey publications: A. N. Zograf, "Zolotyie monety Kavkaza [The Gold Coins of the Caucasus]," *Izvestia Gosudarstvennoi Akademii istorii material'noi kul'tury* 110 (1936), 178–192; A. N. Zograf, "Rasprostranenie nakhodok antichnykh monet na Kavkaze [The Distribution of Finds of Ancient Coins in the Caucasus]," *Trudy otdela numizmatiki Gosudarstvennogo Ermitazha* 1 (1945), 29–85; V. V. Kropotkin, *Klady rimskikh monet na territorii SSSR. [Hoards of Roman Coins from the USSR]* (Moscow: Izdatel'stvo Akademii Nauk, 1961), as well as from publications covering material from Georgia, most importantly: T. Abramishvili, *sak'art'velos saxelmcip'o muzeumis part'uli monetebis katalogi* [Catalog of Parthian Coins in the State Museum of Georgia]. (Tbilisi: Metsniereba, 1974). M. G. Abramzon, "The Gerzeul Hoard of Coins of Caesarea of Cappadocia (in the Museum of Abkhazia)," *Revue numismatique* 6(159) (2003), 243–256; J.-M. Doyen and M. Sherozia, *Les monnaies parthes du Musée de Tbilissi (Géorgie)*, Collection Moneta 82 (Wetteren, Belgium: Moneta, 2007); G. F. Dundua, *Numizmatika antichnoi Gruzii [Numismatics of Ancient Georgia]* (Tbilisi: Metsniereba, 1987); G. F. Dundua, *sak'art'velos samonet'o gandzebi: romaui xanis monetebi sop' ekidan da sep'iet'idan* [Coin hoards of Georgia: Hoards of Roman coins from Eki and Sepieti] (Tbilisi: Metsniereba, 1979); K. V. Golenko, *Denezhnoe obrashchenie Kolchidy v rimskoe vremia* [The monetary Circulation of Colchis during the Roman Period] (Leningrad: Izdatel'stvo Gosudarstvennogo Ermitazha, 1964); D. G. Kapanadze, *k'artuli numizmatika [Georgian Numismatics]* (Tbilisi: Izdatel'stvo Tbiliskogo Universiteta, 1969); D. G. Kapanadze, "Monetnye nakhodki Mtskhetskoi ekspeditsii (1937–1948 i 1951 gg.) [Coin Finds of the Mtskheta Expedition (1937–1948 and 1951)]," *Vestnik drevnei istorii* 1 (1955), 160–173; D. G. Kapanadze, "O drevneishikh zolotykh monetakh Gruzii [On the Ancient Gold Coins of Georgia]," *Vestnik drevnei istorii* 3 (1949), 158–169; E. A. Pakhomov, *Monety Gruzii [Coins of Georgia]* (Tbilisi: Metsniereba, 1910); M. Tsotselia and G. Depeyrot, *Coin Finds in Georgia: (6th Century BC–15th Century AD)*, Collection Moneta 112 (Wetteren, Belgium: Moneta, 2010); as well as publications covering material from Armenia: P. Z. Bedoukian, *A Hoard of Copper Coins of Tigranes the Great; And, A Hoard of Artaxiad Coins* (Los Angeles, CA: Armenian Numismatic Society, 1991); P. Z. Bedoukian, *Armenian Coin Hoards* (Los Angeles, CA: Armenian Numismatic Society, 1987); Kh. A. Musheghian, *History and Coin Finds in Armenia. Coins from Ani, Capital of Armenia (4th C. BC–19th C. AD)*, Collection Moneta 21, (Wetteren, Belgium: Moneta, 2000); Kh. A. Musheghian, *Hayastani Dramakan Gandzerē* [Coin Hoards of Armenia], vol. 1 (Yerevan: Haykakan SSH GA Hratarakch[ut]yun, 1973); Kh. A. Mousheghian et G. Depeyrot, *History and Coin Finds in Armenia: Coins from Garni, 4th C. BC–19th C. AD*, Collection

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⁴² T. Dundua, “Influx of Roman Coins in Georgia,” in *Roman Coins Outside the Empire: Ways and Phases, Contexts and Functions*, ed. A. Bursche, R. Ciołek, and R. Wolters, Collection Moneta 82 (Wetteren: Moneta, 2008), 314.

⁴³ For example, the hoard discussed in A. Apakidze and V. Nikolaishvili, “An Aristocratic Tomb of the Roman Period from Mtskheta, Georgia,” *The*

Antiquaries Journal 74 (1994), 16–54.

44 L. Khatchadourian, “Making Nations from the Ground Up: Traditions of Classical Archaeology in the South Caucasus,” *American Journal of Archaeology* 112(2) (2008), 261–262.

45 The largest securely attributed non-mortuary hoard from Iberia that I have found had 25 coins, see E. A. Pakhomov, *Monetnye klady Azerbaidzhana i Zakavkaz'ia*, vol. 1, n. 29. It is, of course, difficult in the case of chance finds to be sure about original context – it is possible that some of the large hoards from other regions of the South Caucasus are actually mortuary in nature, but were not recognised as such at their time of discovery.

46 C. Perassi, “Monete nelle tombe di età romana imperiale: casi di scelta intenzionale sulla base dei soggetti e delle scritte?,” in *Trouvailles monétaires de tombes: actes du deuxième colloque international du Groupe suisse pour l'étude des trouvailles monétaires, Neuchâtel, 3-4 mars 1995*, ed. O. F. Dubuis, S. Frey-Kupper, and G. Perret (Lausanne: Editions du Zèbre, 1999), 43–70.

47 Stevens, “Charon's Obol and Other Coins in Ancient Funerary Practice,” 225.

48 There are two additional hoards from Svaneti that may have contained as many as 300 additional staters minted in the name of Alexander III, see Pakhomov, *Monetnye klady Azerbaidzhana i Zakavkaz'ia*, 1926, vol. 1, n. 15; Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik*, vol. 4, n. 1319. However, both hoards were dispersed, and the reports of their sizes have been questioned. See T. Dundua and G. F. Dundua, *Catalog of Georgian Numismatics: Part One: Money in Classical and Hellenistic Periods. Coin Issues and Monetary Circulation in Colchis and Iberia (Georgia)* (Tbilisi: Meridian, 2013) for a higher count of Hellenistic imported gold pieces, including some of this material.

49 A. Bursche, “Die Rolle Römischer Goldmedaillone in Der Spätantike,” in *Barbarenschmuck Und Römergold: Der Schatz von Szilágysomlyó*, ed. W. Seipel (Vienna: Kunsthistorisches Museum, 1999), 169–177.

50 Occasionally local imitations are found in conjunction with imported prototypes: T. Dundua and G. F. Dundua, *Catalog of Georgian Numismatics: Part Two: Christianity, Mithraism and Islam. Coin Issues and Monetary Circulation in Iberia and Colchis/Lazica in the 1st–10th Centuries* (Tbilisi: Meridian, 2014), 191.

51 On this type, see G. F. Dundua, *Numizmatika antichnoi Gruzii*, 55–101; Dundua and Dundua, *Catalog of Georgian Numismatics: Part One*, 208–225; K. V. Golenko, *Denezhnoe obrashchenie Kolkhidy*; A. N. Zograf, “Zoloty monety Kavkaza,” 178–192.

52 Dundua and Dundua, *Catalog of Georgian Numismatics: Part One*, 208.

53 E. A. Pakhomov, “Monety Mingechaura,” 141–166.

54 E. A. Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik*, vol. 2, n. 314.

55 K. V. Golenko and A. M. Radzhabli, “Ali-Bairamlinskii klad,” 71–93; Pakhomov, *Monetnye klady Azerbaidzhana i Zakavkaz'ia*, vol. 1, n. 30.

56 Golenko and Radzhabli, “Ali-Bairamlinskii klad,” 74.

57 S. A. Dadasheva, “Mestnyi chekan v monetnom obrashchenii Kavkazskoi Albanii,” 121–129; M. M. Rasulova, *Torgovo-ekonomicheskie i kul'turnye svyazi Kavkazskoi Albanii s antichnym i ellinisticheskim mirom: IV vek do n.e.–III vek*

n.e. [Trade-economic and cultural connections between Caucasian Albania and the Antique and Hellenistic world: fourth century BCE–third century CE] (Baku: Mutardzhim, 2008), 105–113.

58 P. G. van Alfen, “Problems in Ancient Imitative and Counterfeit Coinage,” in *Making, Moving and Managing: The New World of Ancient Economies, 323–31 BC*, ed. Z. H. Archibald, J. K. Davies, and V. Gabrielsen (Oxford: Oxbow Books, 2005), 329.

59 Compositional analysis was conducted on several of the pieces, but the sample is not sufficiently large to allow for much discussion. For details, see Dadasheva, “Mestnyi chekan v monetnom obrashchenii Kavkazskoi Albanii.”

60 Ibid., 122–127.

61 C. Arnold-Biucchi, “Arabian Alexanders,” in *Mnemata: Papers in Memory of Nancy M. Waggoner*, ed. W. E. Metcalf, vol. 109 (New York: American Numismatic Society, 1991), 101–115; K. Kitchen, “Economics in Ancient Arabia: From Alexander to the Augustans,” in *Hellenistic Economies*, ed. Z. H. Archibald, J. Davies, G.J. Oliver and V. Gabrielsen (London: Routledge, 2006), 157–174.

62 Inventory of Greek Coin Hoards (IGCH) #1734; I. A. Babaev and S. M. Kaziev, “Kabalinskii klad monet ellinisticheskoi epokhi,” 16–32.

63 IGCH #1745; E. A. Pakhomov, “Antichnye monety v Albanii,” 48–51; E. A. Pakhomov, *Monetnye klady Azerbaidzhana i Zakavkaz'ia*, vol. 9, n. 2080.

64 M. A. Seifeddini et al., *Numizmatika Azerbaidzhana 1*, 28.

65 Osmanov, *Istoriia i kul'tura Kavkazskoi Albanii*, 31; F. L. Osmanov, “1975-ci il Nüydi qazıntılarının nəticələrinə dair [Results of the 1975 Excavations at Nuydi],” *Izvestiia Akademii nauk AzSSR: Seriya istorii, filosofii i prava* 4 (1975), 45–59.

66 Pakhomov, *Monetnye klady Azerbaidzhana i drugikh respublik*, vol. 9, n. 2081.

67 Kh. A. Musheghyan and G. Depeyrot, *History and Coin Finds in Armenia: Antiquity*, 93(18). Anecdotal reports suggest that finds of these locally minted coins are common in the eastern South Caucasus beyond these hoards.

68 Seifeddini et al., *Numizmatika Azerbaidzhana 1*, 11.

69 L. Gregoratti, “The Caucasus: A Communication Space between Nomads and Sedentaries (1st BC–2nd AD),” in *Le aree montane come frontiere, Spazi d'interazione e connettività*, ed. S. Magnani (Rome: Arachne, 2013), 525–540.

4. The diffusion of architectural innovations: Modelling social networks in the ancient building trade

Henrik Gerding and Per Östborn

Abstract: *Within the project LATERES COCTILES early fired bricks have been the object of a multifaceted investigation. One aim has been to elucidate the mechanisms behind the diffusion of this innovation. An inventory of Hellenistic and early Roman fired bricks around the Mediterranean resulted in an archaeological database comprising 276 brick contexts. Network analysis was applied to these data using a two-fold strategy: First, general similarity networks were generated, representing likely causal relationships between the contexts. Exploratory and statistical analysis of these networks enabled a data-based characterisation of the diffusion process. Then a theoretical model of this process was developed with the aim of simulating the observed data. By comparing model simulations with observed data, the model could be improved step by step. The starting point for constructing the model was the assumption that different categories of people contributed differently to the diffusion process. In this paper the underlying principles and main results of the modelling will be presented, together with a possible interpretation of these results. It is argued that a shift in decision-making within building industry and a greater reliance on technical expertise might have had a key role in promoting the diffusion of*

Keywords: Fired bricks; diffusion of innovations; similarity networks; social modelling; ancient building trade

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Introduction

In this paper we present the main results of an attempt to simulate a historical diffusion process with a network-based social model. After a short summary of our previous investigations, which form the basis for this endeavour, we lay out the underlying principles as well as the main outcome of the model. For the technical details of the model and the simulation procedure, we refer to another publication.¹ A significant part of the paper is devoted to one possible interpretation of the simulation results, concerning the configuration of the ancient building industry.

The diffusion of fired bricks: a network approach

This study is part of a larger investigation on the early use and spread of Hellenistic fired bricks, where network analysis is one of several approaches to a diverse but largely neglected material.² One of our main objectives has been to investigate how this innovation spread across the Graeco-Roman world, from its introduction in the mid-fourth century BC, until its final breakthrough at the turn of the Common Era.³ To this end we strove to collect all published reports on Hellenistic fired bricks, concentrating on the European part of the Hellenised world. All total, we gathered information on 276 brick contexts from 131 sites, located in ten different countries. Although far from complete, this material was deemed to constitute a representative data set. Depending on the quality of the reports we could extract information on the appearance of the bricks, their structural use and function, as well as the architectural context of each find, sometimes corrected or augmented by personal observations. The information was compiled in a database, basically forming an attribute table. To enable comparison we used eighteen attributes to describe each brick context. However, these attributes were of different kinds: some represented numerical values, others intervals; most of them were categorical.



Figure 4.1. Hellenistic fired bricks (Tauromenion, Pompeii, Rhegion, Soloeis). Photos by H. Gerding.

Hellenistic bricks differ from Roman imperial bricks in several ways (Fig. 4.1). Most importantly it should be noted that, while fired bricks constituted a standard building material in most parts of the Roman empire, the use of Hellenistic fired bricks was both limited and sporadic for a very long time.

Fired bricks were used in Mesopotamia from the beginning of the fourth millennium BC, reaching a peak in the Neo-Babylonian period. As a result of this long brick tradition, there were also occasional uptakes of fired bricks in adjacent areas: Anatolia, the Levant, and even Egypt. However, based on current evidence, the innovation was not adopted in the Greek world until the very end of the Classical period. This may seem strange, particularly considering the much earlier use of roof tiles. Terracotta roof tiles were introduced in central Greece before the mid-seventh century BC;⁴ the earliest securely dated attestations of brick masonry derive from Thasos around 340 BC.⁵ During the following period of tentative spread, lasting for over 300 years, the innovation was obviously transmitted over long distances, sometimes in a very short time, but rarely to densely urbanised areas. However, just before the turn of the era the diffusion process reached a point of take-off towards breakthrough (Fig. 4.2), followed by

widespread acceptance of the innovation. Thus, we can outline different stages of the process: periods of rapid spread, discontinuance, re-invention and breakthrough. All this makes fired bricks particularly well suited for an investigation into the mechanisms behind diffusion in antiquity.

We have chosen to regard diffusion in line with modern Diffusion of Innovation Theory (DIT), that is, as the result of social interaction between individuals, involving at least one user and one potential adopter. This is a social process in which information about, and from, other users is more important than information on the innovation itself. Thus, what is often perceived as a diffusion of an artefact or a technology is actually a diffusion of behaviour.⁶ The concept is also described by the so-called innovation-decision model, formulated by Everett Rogers.⁷ He divided this process into several steps, the first three of which are:

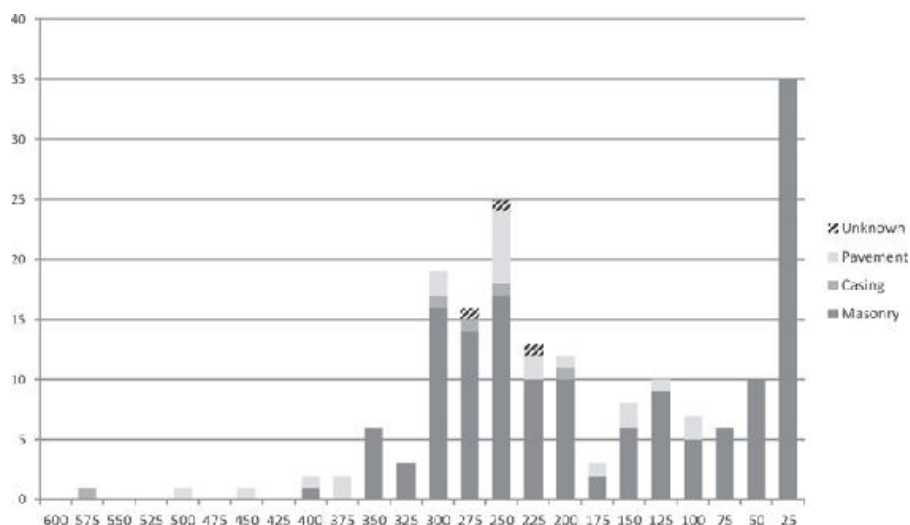


Figure 4.2. Temporal distribution of fired bricks (600–1 BC), divided by structural use.

1. Knowledge: stressing that awareness of an innovation does not automatically lead to adoption;
2. Persuasion: a phase where the potential adopter weighs perceived relative advantages against perceived costs and risks;
3. Decision: the crucial step, where the adopter has to overcome the uncertainty that is felt towards the innovation.

Adoption is more likely to occur if the information about the innovation is provided by a user who is closely related, affiliated or

similar to the potential adopter; likewise if the user is a role model, an authority or a trusted person. Furthermore, the number of users and non-users among the potential adopter's acquaintances will also have an impact, manifested for example as group pressure. The diffusion process is the sum of all individual decisions regarding the innovation. The contacts between users and potential adopters constitute a social network, and the structure of these relationships will have an effect on the outcome. In other words, the diffusion process takes place within the boundaries of an underlying social network and can be seen as a subset of this network. Thus, the advantage of a network approach is not only that causal relationships between various brick contexts can be visualised, but also that formal network analysis can be used to explore the diffusion process and the structural properties of the underlying social network.

In a previous study we introduced the concept of general similarity networks.⁸ This concept is based on the assumption that similarity between two contexts may indicate a causal relationship, which can be graphically represented by an edge connecting two nodes. A set of nodes linked to each other in this way makes up a similarity network. The use of similarity networks as an analytical tool is not a new idea. What we propose is that the network approach is particularly appropriate if we want to study some kind of complex evolution, such as a diffusion process. Normally similarity between different contexts is based on a single type of attribute, for example, the co-presence of a certain artefact or the abundance of a certain find. Most contexts, however, are best described by a large set of attributes, represented by different kinds of values: numerical values (e.g. thickness of bricks), intervals (e.g. date range), incidence (e.g. presence of plaster), and categories (e.g. structural use). In order to detect relationships effectively, we wanted to allow any kind of similarity relation as a criterion for connection, where different kinds of attributes could be mixed. A similarity relation could then be expressed as a general criterion: 'connect all contexts that share at least ten attributes and overlap in time.' A general approach made it possible to test different conditions for similarity in search of likely causal relationships.

Exploratory analysis was performed and supplemented with statistical analysis of the observed network patterns.⁹ The analyses suggest that there was indeed a diffusion process, as opposed to random, independent appearances of fired bricks. This diffusion seems to have taken place in a small-world social network of builders and

decision makers, where the innovation was more likely to be transmitted over short distances, but where long-range connections were also present. The data seemingly exclude a scale-free network, in which the diffusion is governed by a few dominant hubs. Furthermore, brick usage can be separated into cultural clusters, distinguished by similar attributes, but also by spatial and temporal proximity.

Modelling the diffusion process

As a final step in the network analysis, we set out to model the diffusion process in order to recreate the observed patterns in the collected material. The aim of the modelling was to find the smallest and simplest set of mechanisms within the model framework that are able to reproduce the known aspects of the diffusion of fired bricks. The details of the model and the simulations are presented elsewhere.¹⁰ This paper will focus on the basic principles and the possible interpretations of the results.

Instead of attempting to encapsulate all aspects of the diffusion process, we aimed at as simple a model as possible. Our starting point was the assumption that different groups of people contributed in different ways to the diffusion process. This assumption is supported, on the one hand, by earlier studies in the field of diffusion of innovation,¹¹ and on the other by our knowledge of the building trade in Antiquity.¹² Therefore, slightly arbitrarily, we stipulated the existence of three actor groups. These can be interpreted as different professional or social groups, within or between which the innovation might have spread.

In order to differentiate between the groups in the model, they had to be given different characteristics. We used two defining features: (1) the capacity to make decisions about the use of fired bricks; (2) the ability to transmit the innovation over long distances (Fig. 4.3). The first distinguishing feature is essential for adoption to occur; the second was implied by our data. In the analysis of the similarity networks we found an irregularity in the cumulative distribution of edge lengths.¹³ Normally the curve would fall off smoothly, but in our case a significant shift was observed at edge lengths between 200 and 300 km. This indicates that short- and long-range connections represent two qualitatively different phenomena, and that there was an upper limit to the short-range activities at about 250 km. The two phenomena can be interpreted as different modes of diffusion, or different actor groups.



Figure 4.3. Definition of the three actor groups in the model.

The model allows transmission of the innovation from one site to another, both within and between the three actor groups, based on probability rates which can be altered. The huge number of hypothetical interactions was reduced to a bare minimum, from which all possibilities could be re-combined (Fig. 4.4). This means that all external and internal factors that affect the diffusion process in one way or another are reduced to a single probability rate, but we still retain the possibility to differentiate between their combined effects on various actor groups. It should be stressed that we are only interested in the relative importance of the actor groups, not the absolute figures for the probability rates.

Instead of trying to reconstruct an underlying social network, for which very little historical evidence exists, we allowed potential diffusion between all sites, but let the probability rate drop with the distance, in accordance with the findings from our previous network analysis. The brick attributes were reduced to a set of binary variables, which changed slightly through random ‘mutations’ at every transmission, thus simulating the continuous development of the innovation.

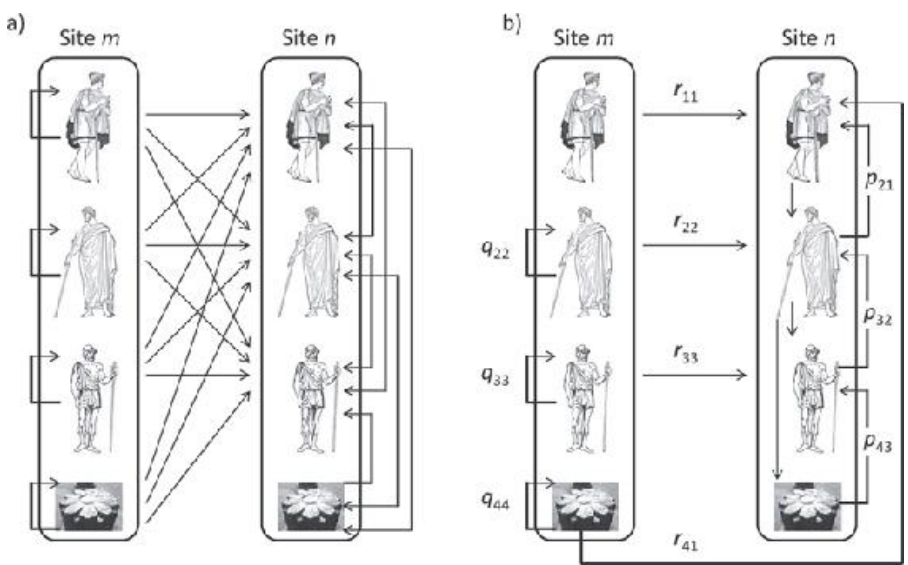


Figure 4.4. Flow charts showing possible interactions between members of different actor groups in the model: (a) All possibilities; (b) Simplified model.

This way we could construct a versatile model without losing ourselves in a wealth of parameters. However, in order for the simulations to have any explanatory value, these abstract entities have to be interpreted historically. We would like to argue that actor group 1 best corresponds to elite commissioners of buildings, whereas actor group 2 is closer to architects and master builders, the difference then being the range of their social contacts. We feel confident in assuming that elite individuals managed to maintain social contacts over longer distances than non-elite individuals did, although most of their contacts probably were short-range as well. Architects and skilled craftsmen did travel to some extent, but they rarely went outside their own region.¹⁴ The third actor group can be interpreted as brick makers, craftsmen and builders, who might have been familiar with the innovation, but generally did not have the authority to implement it.

By adjusting the probability parameters and introducing additional mechanisms to the model, we tried to recreate the diffusion process as closely as possible. The results of the simulations were tested against the temporal and geographical distribution of the collected material, as well as the structural properties of the similarity networks. Five features can be identified as the most important characteristics of the diffusion process:

1. Hesitant and fluctuating diffusion before take-off (temporal distribution);
2. Diffusion in the 'periphery' of Hellenistic Europe (geographical distribution);
3. Mainly short-range diffusion (network properties);
4. High degree of 'cultural clustering' (network properties);
5. A small world without dominant hubs (network properties).

When we adjusted the model to fit the data, the strategy was to start with the simplest possible models, and add complexity only if needed. The hesitant diffusion and the correct edge length distribution could be attained merely by calibrating the relative importance of the different actor groups. However, in every simulation run, the diffusion process tended to take hold quickly in densely urbanised areas and spread rapidly there. This was an undesired effect of the inverse dependence between transmission probability rates and distance in the basic model, which indicated that an additional mechanism had to be introduced.

It must not be forgotten that some of the factors that benefit the diffusion of an innovation, such as group pressure, also work against it. Just as a large number of adopters within a group may affect the decisions of other members of the group, the number of non-adopters may also exert influence, especially if there are existing alternatives to the innovation. In other words, as long as most of your acquaintances stick to the old ways of doing things, you are less likely to try something new yourself. We called this the 'conservatism factor' and incorporated it in our model.

Even if the 'conservatism factor' is reasonable *per se*, it goes against the intuition that there was a stronger incentive to adopt new technologies in densely urbanised areas, due to a higher level of competition. However, the apparent absence of this mechanism may be due to the fact that the technical, economic and social benefits from fired bricks were perceived as marginal. Other innovations with more obvious benefits might have been attracted to urban centres for this reason. What we can say is that within the framework of the core model we had to include a mechanism that repelled the innovation from large urban centres, in order to make the simulated diffusion process resemble the real one. The addition of the 'conservatism factor' had a huge effect in making the simulations more realistic, in that it delayed the introduction of the innovation in the most densely urbanised areas, including Rome and Athens.

The final model was able to mimic the real temporal and geographical distribution and the resulting similarity networks in considerable detail, with one exception. The model could not be made to reproduce a slow and hesitant diffusion, followed by a steep take-off. Since the former state is a distinctive trait for the period in question, it was highly prioritised in the simulations. The main results can be summarised as follows:

1. Actor group 1 must be more influential than actor group 2 in terms of 'transmission power.'
2. Actor group 3 has to be active. This latent diffusion can be seen as spread of knowledge about the innovation.
3. There has to be a 'conservatism factor,' inhibiting rapid spread of the innovation to densely urbanised regions.
4. There must be an element of re-invention, significantly altering the way bricks were used. Minor adjustments, accumulating step-by-step as the knowledge of bricks spread, cannot account for the observed 'cultural clustering.'
5. The take-off towards breakthrough cannot be reproduced in an otherwise well-calibrated model.

These results can now form the basis for different explanatory interpretations.

Implications of simulation results

The outcome of the model indicates general conditions for the diffusion of fired bricks, some of which may be interpreted in terms of historical circumstances:

1. Actor group 1, interpreted by us as elite commissioners, must have played an important role, compared with actor group 2 (architects and master builders).
2. Adoption probabilities in general, but particularly those for actor group 2, seem to have been of a low order. In other words, the conditions for diffusion were for a long time so difficult that they precluded breakthrough.
3. This 'weak' diffusion process, however, must have been supplemented by a more stable spread of latent knowledge/acceptance, which could spawn adoption indirectly and keep the process alive.

These results are only relevant within the framework of the proposed model. Since the model in question only constitutes one possible representation of reality, and a very limited one, they must be treated as indications rather than firm conclusions. Moreover, some of the results can be seen as trivial in the sense that they were to be expected, given what we already knew about the diffusion process. However, the important point to be made is that all significant traits of the diffusion process can be accounted for by a relatively simple model, with one exception; the model failed to reproduce a steep take-off, preceded by a long period of slow and hesitant diffusion. This provides us with a clue as to what parts of the process may be related to internal dynamics, and what parts are likely to be a result of changes in the historical circumstances. Thus, we do not necessarily have to assume some major historical cause for the apparent drop in brick use in the early second century BC (Fig. 4.2), but are probably correct in looking for an explanation for the sudden take-off in the first century BC.

As the proposed model does not contain sufficient mechanisms to explain the final breakthrough of the innovation, we must turn to exterior causes. Unfortunately, there is a wide range of factors which offer a reasonable explanation for the development at hand. The following list summarises the main categories:

1. Changes in the innovation content;
2. Changes in the general conditions (social, economic etc.);
3. Changes in the structure of the underlying social network;
4. Changes in the behaviour of actor groups (as they are defined in the model).

These causes can be seen as exterior, not only with regard to the dynamics of the diffusion process, but also in relation to the model, as they all imply a sudden change to the relevant parameters or even the basic premises. It is reasonable to assume, for example, that an improvement in the innovation would affect the perceived relative advantage of the innovation, corresponding to an increase of the adoption probabilities. The same goes for a sudden improvement of communication between potential adopters, represented by additional (or strengthened) edges between nodes. John Bintliff has pointed to an important shift in the configuration of the non-elite urban population in the latter part of the Hellenistic period, with far-reaching social and economic implications.¹⁵ It is also possible that the uptake of the

innovation in the Roman capital triggered a qualitative change in the process, significantly enhancing the diffusion rate. However, the data at hand does not allow us to say whether the introduction of fired bricks in Rome was the cause of the final breakthrough or merely a consequence of a breakthrough that was already coming about.

In line with the ‘minimalistic’ approach, outlined above, we will here focus on possible changes in the behaviour of the different actor groups. More specifically, we will put forward an explanation that adheres to one of the key features of the model: the capacity to make decisions regarding the use of bricks. This explanation goes hand in hand with the overall historical interpretation of the model, thereby offering an integrated narrative. Such an explanation is not necessarily more likely than any other but has the merit of coherency.

A tentative historical interpretation

One possible interpretation of the suggested model would be that the diffusion process for a long time depended on a relatively small group of elite commissioners making one-off decisions and communicating these decisions to each other. This sparse network constituted a small world, allowing a swift and far-reaching diffusion, but one which constantly lingered close to extinction. Unlike most commissioners, architects and builders would have had the advantage of being involved in several construction projects during their lifetimes, maintaining contacts with other experts, and having the technical competence to assess new innovations. All this would have promoted the diffusion of fired bricks among this group, provided that they had the capacity to make critical decisions regarding the choice of building materials. As the model indicates, relatively few artisans seem to have had that authority. However, the familiarity and appreciation of the innovation would still have spread among craftsmen and architects, and occasionally facilitated the adoption of the idea by actual decision makers. This latent background knowledge, represented in the model by actor group 3, was shown in the simulations to be crucial for the long-term survival of the diffusion process.

The importance of decision making is of course a direct effect of how we chose to construct the model. However, this notion is founded not only on modern diffusion theory but also on ancient literary and epigraphic evidence. To begin with, we have the testimony of Vitruvius (6.8.9): “*in domini est potestate, utrum latericio an caementico*

an saxo quadrato velit aedificare.”¹⁶ In other words, the commissioner chooses the building material, the architect makes the design, and the artisan executes the work. Rather than accepting this statement at face value, we treat it primarily as a confirmation of the significance of decision making in the building process.

The failure of the model to simulate a steep take-off towards breakthrough induces us to look for signs of change in decision making over time. The suggested development can be illustrated by two temporally differentiated configurations of interaction, presented here as ideal types.

Early configuration

At the top, we have the commissioner, who could be a private citizen, a magistrate or a public committee (Fig. 4.5). The commissioner worked out specifications and a framework for the design, which sometimes was rather detailed, as shown for example by the Puteoli inscription.¹⁷ If it was a major building, an architect or master builder was appointed to elaborate on the design and make refinements, but the commissioner would still be able to intervene at a later stage.

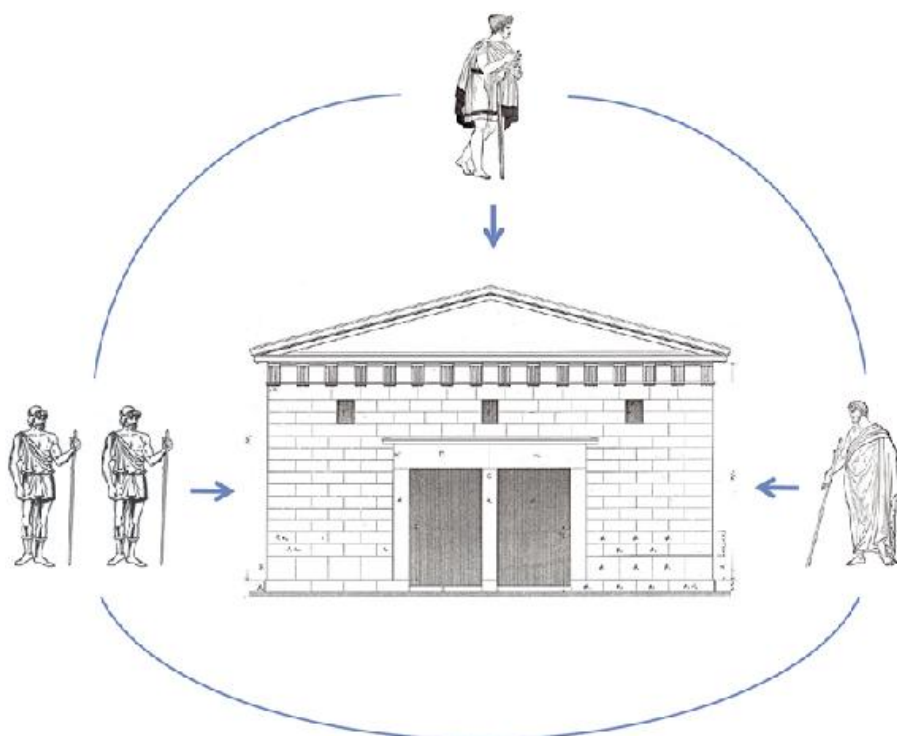


Figure 4.5. Schematic configuration of relationships in the building process in the late

In public projects the architect worked under the close supervision of a building committee, and was paid on a daily basis rather than a long-term contract. In Athens the council would approve and if necessary modify the preliminary design.¹⁸ The commissioner provided the building material, but also recruited the workforce. These could be hired day-labourers, entrusted with specific tasks, or entrepreneurs, taking up piecemeal contracts within the framework of the original design.¹⁹ The execution and quality of the work was overseen by the architect, who might also be responsible for solving certain technical problems. However, building inscriptions show that the role of the architect was often that of a supervisor and administrator of the project,²⁰ reporting back to the commissioner, who made the final decisions. The fact that architects were often replaced during lengthy projects further illustrates their subordinate role.

Private building would have followed a similar pattern. Although we cannot say for certain that commissioners always made the crucial decisions, it is quite clear that many elite commissioners acted as patrons of architects and master builders,²¹ and sometimes also performed the role of an architect.²² From the beginning of the Hellenistic period, euergetism developed as a self-interested behaviour among elite individuals. These benefactions were often performed by commissioners, who also took responsibility for the construction, as shown by many building inscriptions. Architects were sometimes allowed to figure prominently in these inscriptions, as they were closely linked to the commissioner anyway.²³

Turning to republican Rome, we have reason to believe that the building industry worked in a similar way, but also that it was governed by patron-client relations, which would further motivate the direct involvement of the commissioner.²⁴ Providing business opportunities and work to entrepreneurs, craftsmen and day-labourers would be just another kind of *beneficia*.

Contracting of privately commissioned buildings during the Republic is not well documented.²⁵ In fact, the small legal interest in problems arising from private contracting before the first century AD may indicate the limited extent of the phenomenon. It could be that the precise stipulation of mutual responsibilities was preceded by reliance in the workings of clientage; that is, there was no need to

establish a legal contract between a patron and his client. It may also reflect a situation where many private commissioners of both public and private buildings also acted as the actual building entrepreneur, basically giving the contracts to themselves. In summary, public and private commissioners alike were deeply involved in the building process.

Late configuration

In Roman imperial times the relationship between commissioners and builders had transformed (Fig 4.6). Decisions on construction were often delegated to experts. The patron-client relationship within the building trade had partly dissolved, as a result of a changing political landscape, and was replaced by a legal framework, as indicated by judicial texts.²⁶

The entire project was now let out to a main contractor, who may have been a master builder or an entrepreneur working closely with an architect.²⁷ The main contractor provided material and labour, and probably worked out the full design. Alternatively, many smaller building firms joined up to take on the contract. Janet DeLaine has argued that the *collegium* of *fabri tignuarii* played an important role in organising major imperial projects.²⁸ Based on detailed studies of the building remains of Ostia, DeLaine has also convincingly shown how decisions on material and building techniques can be attributed to individual contractors, master builders or craftsmen. The increasing degree of professionalisation is further illustrated by the fact that the maintenance of public works was directed and executed by a trained and permanent staff (cf. Frontinus).

The commissioner still works out specifications, which are stipulated in a contract. However, this arrangement leaves less scope for continuous involvement and detailed directions. Building inscriptions connected to private euergetism now focus solely on the commissioner, not the architect, which reflects the role of the latter as independent professionals.²⁹

Transition from early to late configuration

It is apparent that the first configuration implies a significant scope of active involvement on the part of the commissioner, whereas the second one indicates a more independent role for the architect and master builder, as long as they comply with the contract. It has been suggested by J. J. Coulton that the former arrangement to a large

extent relied on adherence to firmly established building conventions.³⁰ Only in the face of unusual building types and exceptional problems would the architect be required to furnish innovative solutions.

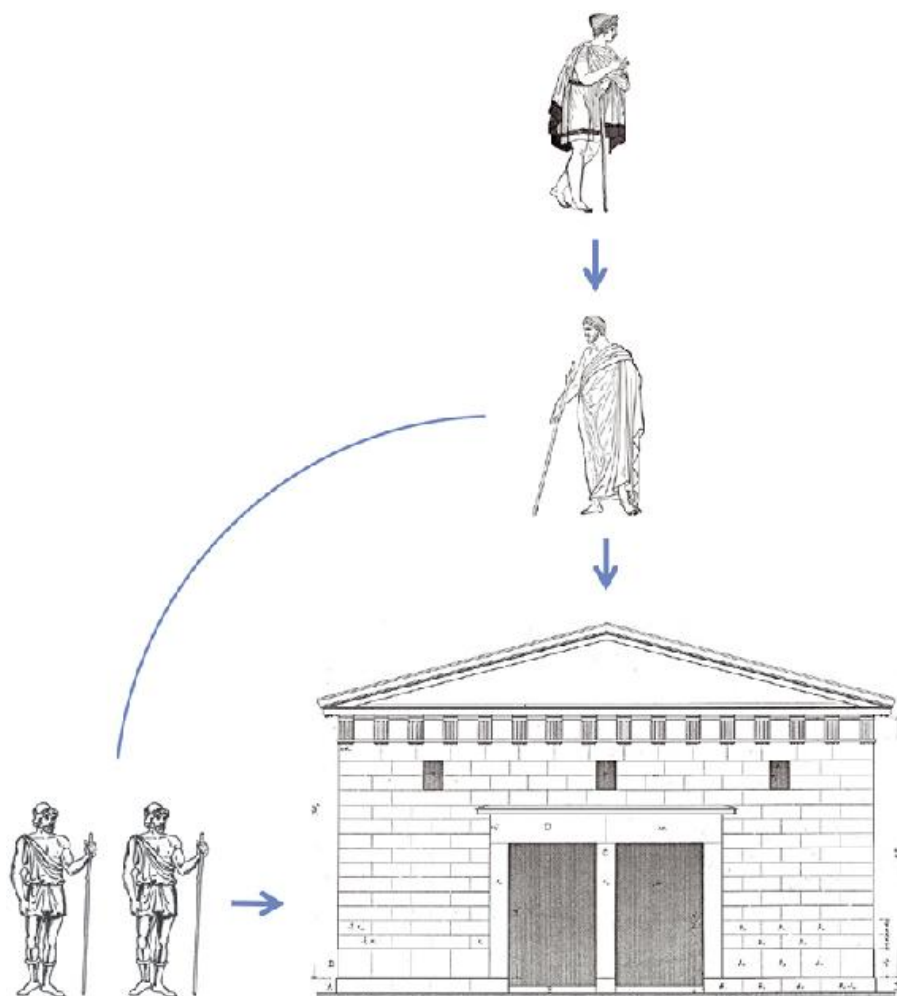


Figure 4.6. Schematic configuration of relationships in the building process in the Roman imperial period. For an explanation of the relationships, see the text.

Overall, these ideal types correspond well with established views on building industry in late classical Greece and the Roman empire respectively. However, very little effort has been made to determine when the significant shift took place, and what consequences it might have had for innovativeness and the diffusion of ideas. Our attempt to simulate the observed diffusion process lends us confidence to suggest that such a shift did occur in the late Hellenistic or Augustan period,

and we would like to argue that this hypothesis also finds support from historical evidence. Taken together the sources indicate an increased rate of professionalisation and a transfer of responsibility from commissioners to architects and master builders at this time.³¹

The network-based model suggests that a change in relative strength of ‘transmission power,’ from long-range actors to short-range actors within the building trade is a possible explanation for the final breakthrough of fired bricks. In the Hellenistic period commissioners, and in particular elite commissioners, had greater ‘transmission power’ than builders and architects but only due to their dominant role in the building process, effectively suppressing the influence of other agents. When artisans acquired greater independence, along with the professionalisation of the building trade and the emergence of a legal framework, their agency made a significant contribution to the diffusion of fired bricks.

Of course, it has to be remembered that other factors also affected the diffusion process and that we limited ourselves to searching for a *sufficient* explanation for the perceived change. Thus, we suggest that for most of the Hellenistic period lay commissioners were likely to make decisions regarding building materials and other construction details, but that from the late Hellenistic and Augustan period these decisions were increasingly made, or influenced, by professional contractors and trained experts. The latter groups were more prone to understand and adopt new innovations, and to use them repeatedly. Even a small shift in the relationship between commissioners and builders would have had a profound effect on the diffusion of innovations, and could account for the final breakthrough of fired bricks.

Notes

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5. Texture of empire: Personal networks and the modus operandi of Roman hegemony

Michael Sommer

Abstract: *Network theory has become fashionable in the humanities. Classics and archaeology are no exception: all that once looked solid has melted into networks. The present paper explores a few avenues for a pragmatic application of network theory to the Roman Empire's rule over its eastern provinces and the fringes of so-called client kingdoms. It argues that, while amicitia is the term Roman sources use for the relationship between local rulers and the imperial centre, patrocinium is indeed the contemporary paradigm that best illustrates the specific bonds of dependency encompassed in client kingship. The evidence further suggests that such bonds were maintained largely through informal, personal channels rather than formal ones (borders, laws, military, political, bureaucratic and social resources).*

Keywords: Roman Empire, Roman Near East, client kingdoms, networks, empire, indirect rule

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In their introduction to a volume on Greek and Roman networks in the Mediterranean, a few years ago, Irad Malkin, Christy Constantakopoulou and Katerina Panagopoulou wrote that the impact of Social Network Analysis (SNA) in history 'has been almost negligible'. Today, this is no longer true. Ancient historians too have learnt to think in networks. A few apply formal network analysis,¹ many more are leaning towards a somewhat loose definition of the term 'network.'² The present paper chooses the second approach: it

aims at understanding the Roman Empire's sway over its peripheries in terms of interpersonal interrelation rather than territorial control, with no claim to ascertaining the intensity and frequency of such relationships. Given the complexity and diversity of Roman rule and the scarcity of the evidence available, any attempt at quantifying such parameters is doomed to failure.

In order to establish the importance of interpersonal networks, this paper will first propose a model of imperial rule as such. What is characteristic about the methods empires employ in order to exert their power and control their peripheries? In particular, in what ways do they differ from modern nation states? The paper will then shift the focus to the Roman Empire and the specific morphology of its hegemony over the Mediterranean. The empire employed two different types of domination: indirect rule in the so-called 'client kingdoms' and a specific Roman variation of direct rule in the provinces. These manifestations will be analysed in the concluding part. A network approach, it will be argued, can provide clues for an understanding of the *modus operandi* of Roman hegemony; and, by doing so, contribute to deciding the long-smouldering controversy between those who defend Ernest Badian's famous model of 'foreign clientelae' and those who do not agree with Badian.³

Nations and empires

Seen from the vantage point of the twentieth century, the nation state looked like the default setup for any polity: the collapse of Europe's colonial empires after the Second World War left the globe partitioned into 163 nation states, as of 1969. From Afghanistan to the Sultanate of Zanzibar, there was no single area of planet Earth that did not belong, at least *pro forma*, to a nation state, save Antarctica, which was exempted from any territorial claim to the sixth continent by virtue of the Antarctic Treaty System, which became effective in 1961.⁴ From the vantage point of the early twenty-first century, the world looks very different. Vast territories have turned into failed or failing states, where national governments are rivals for control with assorted militias, while others are transferring increasing proportions of their sovereignty to supra-national organisations.⁵ Even while parts of the world, including Europe, seem to be nostalgic about the deceptive security of the nation state, such states now compete everywhere with companies operating on a world-wide level and with the rising self-confidence of regional groups within their borders. It is

beginning to dawn on us that the nation state is not the historical gold standard of political organisation, but a rather exceptional case, made possible by a particular strategic and intellectual climate that originated from the French Revolution and its aftermath.⁶

From a *longue-durée* perspective, the nation state is more like a political anomaly: merely one type among many other types of state, which have developed across history, and by far not the most widespread one.⁷ City states, tribal states, temple states, confederative states, multinational states – and, above all, empires – such were the forms of political organisation that prevailed over millennia. The concept of a nation is of a relatively recent vintage: the Latin noun *natio* ('birth,' 'kind,' 'tribe') was referred to corporations of students at the late medieval universities in Italy and elsewhere; they were formed according to origin as well as mother tongue and organised like fraternities. The alma mater of Paris, for instance, was composed of four *nationes* (English, Norman, Picard and Gallic). In a similar manner, the participants of the Council of Constance (1414–1418) were grouped in *nationes*. From here, the concept spread across Europe to signify large collectivities sharing one language, one culture, one identity and, eventually, one polity. In order to be operational, a nation needs things everybody can believe in: a joint imaginary, a shared understanding of the past, common narratives, in many cases a myth of origin. Nations are prototypical 'imagined communities': they exist because the people belonging to them believe in their existence and in features that unite them with other limbs of the nation's body.⁸

Ideal-typically, nation states come into being through the voluntary association of their individual members, as communities of mutual solidarity and shared destiny. In order to underpin the claim to statehood on the basis of shared values, culture and imaginary with credibility, a nation state needs to make sure that the diversity of its population is restricted to an absolute minimum. Ideally, the nation state's population is identical with its civic body. The civic body as a whole, acting as a political subject, exerts sovereignty. The nation state, as defined by the French Revolution, is distinguished through unity and indivisibility: *la nation une et indivisible* has been, not by chance, one of the *Grande Révolution's* slogans. Unity and indivisibility require a high degree of homogeneity across space, hence the state aims at uniformity in any field: culturally, religiously, ethnically, linguistically, socially, legally, economically and politically. Hence the presence of the state and the intensity of its power is also, ideally

speaking again, isotropic; there is no angle where the state is less tangible than elsewhere. Nation states exist in environments composed of peers: typically, the neighbours of nation states are other nation states. As the intensity of control they exert upon their territories is isotropic and no weaker in peripheral regions than in core areas (which restricts such terminology by definition to a purely geographical meaning), they require lines of demarcation separating each nation state from its neighbours: borders, the exact course of which may be disputed, but which are otherwise unequivocal.

Equal distribution of authority, borders, homogeneity, congruency of civic body and population, voluntariness of association – all these features of the nation state are entirely alien to empires, which are, in almost any respect, the exact opposite of nation states. Empires come into being through force. They are usually not joined by others voluntarily nor do they assimilate the populations they conquer. Conquest itself is the purpose of empires and the relationship of domination it constitutes. Empires do not require cultural, religious, ethnic, linguistic, social, judicial, economic or indeed political uniformity. In contrast to nation states, empires have the luxury of ‘structural tolerance’ – which is not to be confused with tolerance as such. ‘Structural tolerance’ simply means that empires have the capability of accommodating diversity in almost any area. Instead of assimilation and acculturation, they demand loyalty and allegiance.

This being said, empires invariably encompass multitudes of ethnicities, cultures, identities and even polities in their peripheries, which are tied to the centre by means of force or threat of force, treaties and often ritualistic practices such as oaths and pledges of allegiance. As against nation states, empires feature strong disparities in the intensity of influence and control they exert over territory: ideal-typically, a core with intense, direct control is surrounded by concentric circles of different peripheries with – from the centre to the fringe – lessening degrees of imperial impact. The core is the area from where the empire’s hegemony originally spread, the home of the ‘founders.’ It is enfolded by a periphery of directly ruled subject territories – ‘provinces,’ whose ties with the core may vary in strength. Finally, the directly ruled periphery is surrounded by an external arena of ‘vassal states,’ which benefit from a high degree of internal autonomy, but whose rulers owe the empire uncompromising loyalty. The individual vassal states have strong ties with the imperial core, while there is hardly any communication between them on a peer-to-peer level. Such vassal states could manifest themselves in the form of

‘client kingdoms’ at the fringe of the Roman world, ‘princely’ or ‘native states’ in the British Empire or the USSR’s ‘satellite states’ in the former Eastern Bloc. No matter what they were called, they were usually (though in varying degrees) free to decide upon their own matters – including legislation and recruitment of their political classes. The connectivity between the individual peripheries is substantially weaker than the bonds between each periphery and the imperial centre.

The disparities in power intensity account for the main difference between empires and nation states in their relation to space: while nation states are limited by borders, empires fade into frontiers – no clearly defined lines, but vast zones of slowly decreasing control; often areas of ambiguity, where the influence of one empire competes with the ambitions of other political players, be they empires or not. Such frontiers are not static, but highly dynamic, especially in periods of imperial expansion, when the external arena of the frontier is usually destined to ‘move’ gradually towards the growing empire’s core. In contrast to borders, frontiers do not divide congeneric entities from each other, as empires do not exist in environments of peers. In the perception of imperial ruling classes, imperial domination is usually equal to world domination. Great kings and emperors are rulers of the world, a quality manifest in titles such as ‘King of the Four Corners of the World,’ which was handed down from the kings of Agade to those of Babylon, Assur and finally Persia. No empire accepts other political stakeholders as equals; rather, empires tend to construct relationships of dependency and tributary suzerainty, even in cases where no such relationships exist. Empires are intrinsically incapable of conducting foreign policy; for them, all political affairs are by definition domestic.

Empires and frontiers

An empire is a political entity *sui generis*, and the Roman Empire was an empire *sui generis*. Scholarship has often failed to address the distinctly imperial character of the Roman state and the distinctiveness of the Roman Empire as a specific historical manifestation of the ideal type ‘empire.’ The empire’s spatial organisation of power and centre–periphery patterns are largely uncharted and, where addressed, usually in a rather unspecific way. This failure is due to a number of reasons. One is semantic confusion. While in German scholarship the term *Römisches Reich* is used for the territory occupied by the Roman state from its beginnings to the very

end, its counterparts, *Roman Empire*, *Empire romain*, *Impero Romano*, in English, French and Italian, refer to the imperial period – roughly equivalent to the German *römisches Kaiserreich*.⁹ Anglo-Saxon scholarship especially has a peculiar fondness for the concept of *Roman imperialism*, usually meaning the overseas expansion of the Roman state from the third century BC onwards,¹⁰ but also, at times, the set of tools employed by the Romans in order to dominate the Mediterranean world from the Punic Wars to Late Antiquity¹¹ and, in rather rare cases, the ideological dimension of Rome's self-perceived mission to rule the world.¹² The concept is as nonsensical as it is imprecise. If simply referred to the technical aspects of Roman rule, it is wrong because imperialism is a technical term and as such carries the notion of a set of beliefs legitimising imperial domination. If used to include precisely such notions, it is misleading, because a proper ideology of empire – comparable to the one that came with the expansionism of European colonial empires in the nineteenth century – was absent from the Roman world, though the Romans certainly believed in their mission to rule.¹³ Hence, 'imperialism' is the wrong analytical category. 'Empire' should be used: not as a denomination for a historical period, but as a technical term for the specific type of polity established by the Romans.

The second reason is focus of research: since the days of Mommsen, ancient historians have been concerned, some say obsessed, with the 'constitutional' problems of the Roman state, be it in the republican or in the imperial period. Much effort has been put into the study of legitimacy and into answering the question of constitutional 'continuity' between the Republic and the principate, especially in continental scholarship.¹⁴ Since the 1980s there has been a remarkable paradigm shift: the constitutional question is no longer regarded as crucial for an understanding of Roman society. Instead, the cultural turn has taken full possession of the study of Roman history and has put the issue of cultural change high on the agenda of scholars: the cultural impact of Rome on the provinces and whether its effects should still be called 'Romanisation' (or, for instance, rather 'globalisation') has given rise to considerable discussion.¹⁵ An impressive number of area studies has now utterly changed the way we view Roman culture.¹⁶ The singular seems no longer tenable: what emerges with increasing clarity from such research is the notion that the Roman world was home to a cluster of local cultures which were somehow influenced or reconfigured by and often even owed their existence to an imperial culture that was hybrid in itself and the result

of a long process of negotiation. Taking into account the ‘structural tolerance’ of empires, this is hardly surprising.

While culture is, no doubt, an important factor, politics matter too. And it is the Roman Empire’s political setup of which scholarship, with all its focus on culture, has somehow lost track. In particular, the spatial organisation of Roman power and the mechanics of the imperial frontiers are still rather mysterious. At first glance, this is surprising. Roman frontier studies is an established research field, with editions of the international ‘Limes Congress’ published at regular intervals and plenty of resources dedicated to the archaeological exploration of the Roman frontier system. But precisely the dominance of archaeologists (over historians) in this crucial field has, in the past at least, made sure that a rather conservative, static and mechanistic model of Roman frontiers has prevailed. This has been gradually changing over the last decade or so. But many studies still misjudge the spatial character of the Roman frontier system and mistake frontiers for borders.¹⁷ Somewhat ironically, there is now more research on ‘client kingdoms’ – the *amici et socii*, as the Roman themselves called them – and their relations with the imperial centre¹⁸ than on the provinces, where the focus still lies on the niceties of provincial administration rather than their political integration into, and relationship with, the empire at large.¹⁹ As far as the indirectly ruled periphery is concerned, we see now relatively clearly how Rome interacted with local rulers – due to the long and prolific Badian controversy. While they were called *amici*, the relationship between local rulers and powerful representatives of the Roman state – from Augustus onwards, the emperor – really took the form of *patrocinium* and was hence asymmetric, by no means a bond between equals (as the concept of *amicitia* suggest²⁰). Client kingship involved the usual social practices of *patrocinium*:²¹ Suetonius tells us that Augustus was greeted by Rome’s *reges amici atque socii* on a regular basis, *more clientium*, and not only while he was in Rome, but also when he was travelling the provinces.²² The fact that the Romans took the rationale for their interaction with local dynasts deep from the inventory of relationships that shaped Roman society is significant in itself. It reveals, unmistakably, that this relationship was understood to take shape on strictly personal terms – it was an exclusive bond of loyalty between a local ruler and one individual representing the Roman Empire: a powerful military leader of the sort of Sulla, Pompey or Caesar in the Republic, the emperor in the principate.

Nodes and webs

This is where the theory of networks comes into play. *Amicitia* and *patrocinium* represent two radically different types of network: one is non-centralised and non-hierarchical, the other centralised and strictly hierarchical. In *amicitia*, each individual in the network operates on the same level and shares – roughly – a similar degree of connectivity with the other nodes. To what extent individuals are linked to others is largely subject to contingency: lines of connectivity criss-cross the network. *Patrocinium*, on the other hand, represents a two- (or in some cases, multi-) layered network, where nodes are arranged on two levels of centrality: central nodes interact with multiple peripheral nodes, whose connectivity is in turn very limited. Their interaction is restricted to the central node, while they maintain neither links to peer peripheral nodes nor to any potential third central nodes. When mapped visually, *amicitia* (Fig. 5.1) and *patrocinium* (Fig. 5.2) look like this:

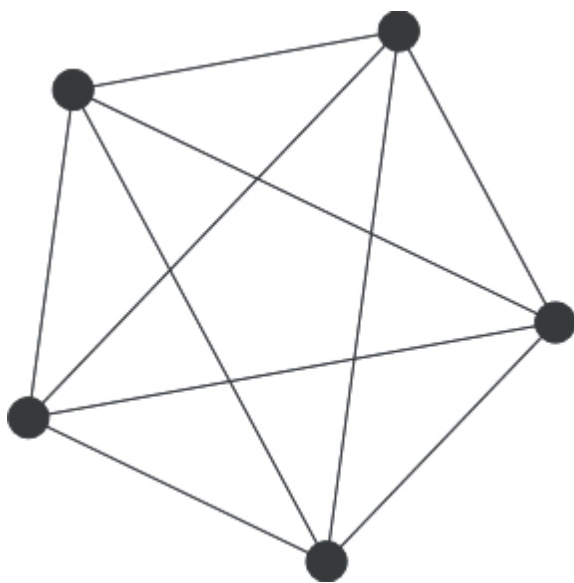


Figure 5.1. *Amicitia* network.

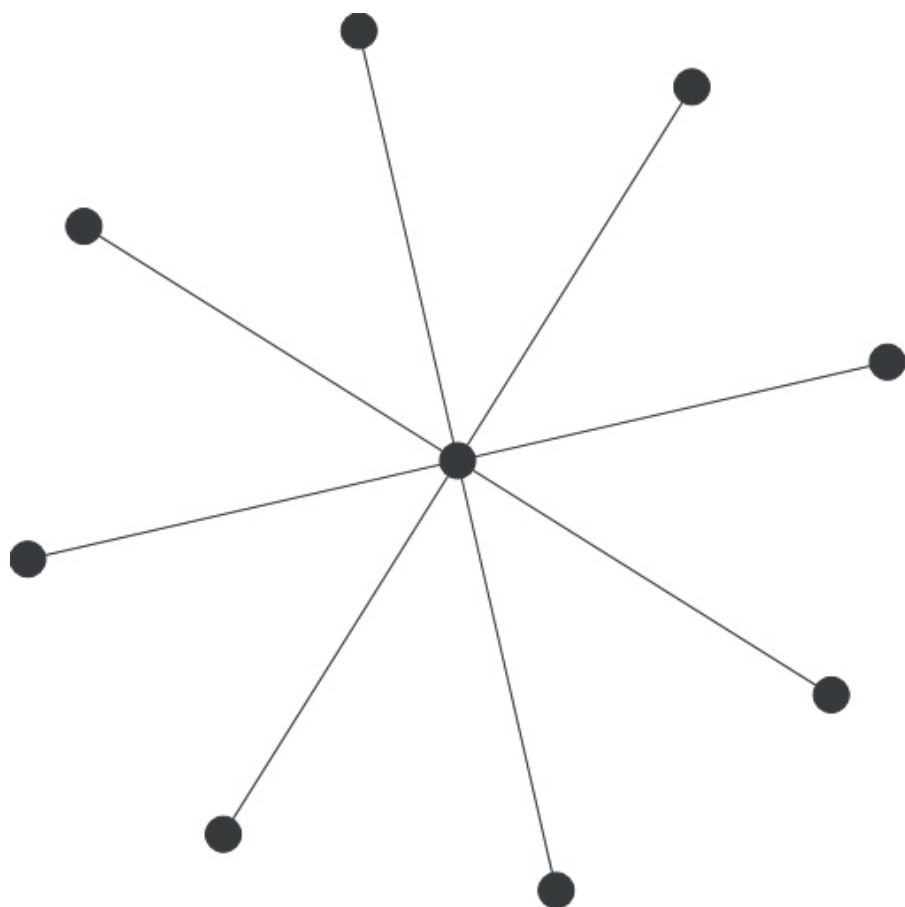


Figure 5.2. *Patrocinium* network.

This visualisation of *patrocinium* is an accurate representation of the observation on empires, made earlier in this paper, that vassal states have strong ties with the imperial core, while there is little or no communication between them. How jealously the Roman Empire watched over its exclusive access to the lines of communication with local rulers on the fringes of the imperial world is illustrated by an episode reported by the historiographer Cassius Dio. In 113 AD, tensions between the Roman Empire and the Parthians led to another military conflict, the third in the long history of hostility between the rival empires. The emperor Trajan swiftly conquered Armenia where he replaced the pro-Parthian king with a Roman loyalist; by late 114, Trajan had occupied all of Armenia and the neighbouring Media Atropatene. He then moved towards northern Mesopotamia, conquering the cities of Nisibis and Batnae and the kingdom of Osroene. There, in the capital Edessa, he pitched camp for the winter

of 115/116. Cassius Dio reports that Abgaros, the king of Osroene, had sent gifts to Trajan, while the emperor was preparing his campaign from his headquarters at Antioch, as early as in 113; he had, however, failed to appear before the emperor in person, due to his fear of the Parthians, whose vassal he had been till then.²³ According to Dio, this precaution of Abgaros' had put a stain on the relationship between the two rulers from the outset. Trajan took Abgaros' staying at Edessa for lack of loyalty and consequently distrusted the man who was soon to become his own client king. With his cautious wait-and-see policy, Abgaros was by no means alone: Mannos, 'the ruler of the neighbouring portion of Arabia,' Sporakes, the prince of Anthemousia, and a certain Manisaros had likewise sent gifts and envoys, but avoided appearing before the emperor themselves.²⁴ So far, the episode demonstrates to what extent trust between individuals accounts for the political course of action adopted by a superpower.

In Mannos' case, Trajan's suspicions were further nourished by the local prince's habit of making foreign policy for his own account. Mannos had 'sent an auxiliary force to Mebarsapes, king of Adiabene, on which occasion he had lost it all at the hands of the Romans.'²⁵ Mannos had conspired, with another local ruler, against Trajan. Worse than that: he had broken the rule that all communication was to be exchanged between him, the peripheral node, and Trajan, the central node; certainly not between assorted local potentates in the periphery. In short, Mannos had catastrophically, for him, misjudged the workings of Roman hegemony. Roman indirect rule had little to do with *amicitia*, it was all based on *patrocinium*.

Abgaros was luckier than Mannos. He had a son, named Arbandes, 'who was handsome and in the pride of youth and therefore in favour with Trajan.' Abgaros who, on Trajan's arrival, approached the emperor on the road, 'had a powerful intercessor in the boy' – and hence 'obtained pardon.'²⁶ Again, it is the contingency of personal chemistry that determines imperial policy – and the fate of a small kingdom in the frontier zone between Parthia and Rome. This is of course the version of our chronicler, Cassius Dio, who, evidently, does not sympathise with Trajan, whom he blames, repeatedly, for his triumphalism and insatiable thirst for glory. Also, and more importantly, the author had at his disposition the whole array of historiographical topoi the genre had in store. The tendency of ancient writers to personalise political history is notorious, while the underlying structures, which are by definition anonymous, usually escape their attention.²⁷ But there is hardly any discourse with no

roots whatsoever in the real world. Historiographers personalised political matters because politics *was* personal. Individuals *did* matter and personal biases towards other political actors could, and often also did, influence political decision-making. A similar pattern emerges from numerous other accounts of Rome's interaction with local rulers, from Britain and Gaul to Germany and North Africa – everywhere personal trust and sympathy (and the respective opposites) were decisive for the development of bilateral relations between the imperial core and the periphery of local kingdoms. At least in this respect the Mesopotamian case-study used here appears to be representative for the empire at large.

Patrons and clients

The admittedly selective and somewhat impressionistic use of the network paradigm in this paper contributes to a better understanding of the *modus operandi* of Roman hegemony in two respects. First, it emerges that *patrocinium* is indeed the concept according to which the relationship between Rome and the rulers of local states in the periphery should be modelled. The key point is the strict centrality of the network established by the empire and its representative. Local rulers maintain intense contacts with the centre, but – ideally – no direct relationships whatsoever with their peers. If indirect rule is to work smoothly, the local rulers are kept in isolation from each other, while they are given the possibility of communicating directly with the imperial centre. Secondly, the frontier should not be defined as much in territorial terms as it should be conceived as a centralised network with individual rulers – the Roman emperor and the local kings and princes – as its nodes. In such a network, authority is determined less by objective factors (borders, laws, military, political, bureaucratic and social resources) than by interpersonal relationships and their contingencies.

Notes

1 For instance, T. Brughmans, “Thinking through Networks. A Review of Formal Network Methods in Archaeology,” *Journal of Archaeological Method and Theory* 20 (2013).

2 As proposed by I. Malkin, *A Small Greek world. Networks in the Ancient Mediterranean*, Greeks overseas (New York: Oxford University Press, 2011).

3 For a brief discussion, see C. Wendt, “*More clientium*. Roms Perspektive auf befreundete Fürsten,” in *Amici – socii – clientes? Abhängige Herrschaft im Imperium Romanum*, ed. E. Baltrusch and J. Wilker (Berlin: Exzellenzcluster

Topoi der Freien Universität Berlin und der Humboldt-Universität zu Berlin, 2015). The client kingship model was first proposed by E. Badian, *Foreign Clientelae* (264–70 B.C.) (Oxford: Clarendon Press, 1958). While E. S. Gruen, *The Hellenistic World and the Coming of Rome* (Berkeley, CA: University of California Press, 1984) and his school (e.g. A. M. Eckstein, *Rome Enters the Greek East. From Anarchy to Hierarchy in the Hellenistic Mediterranean, 230–170 B.C.* (Oxford: Blackwell, 2008); P. J. Burton, “Clientela or Amicitia? Modeling Roman International behavior in the Middle Republic (246–146 BC),” *Klio* 85 (2003)), but also others (P. Kehne, “‘Externae gentes’ und ‘regna inter fines’ im Nordgrenzbereich des Imperium Romanum vom 1. bis zum 3. Jh. Eine Kritik der Klientelstaaten-Theorie,” *Eos* 87 (2000); A. W. Lintott, *Imperium Romanum. Politics and Administration* (London: Routledge, 1993), 32–40 have criticised the model as misleading, but it has been revitalised, especially, but not exclusively, for the principate: D. Braund, *Rome and the Friendly King. The Character of the Client Kingship* (London: Croom Helm, 1984); K.-P. Johne, “Klienten, Klientelstaaten und Klientelkönige bei den Germanen,” in *Amici – socii – clientes?*; E. Baltrusch, *Außenpolitik, Bünde und Reichsbildung in der Antike*, vol. 7, Enzyklopädie der griechisch-römischen Antike (Munich: R. Oldenbourg Verlag, 2008), 71; A. Coskun, “Freundschaft und Klientelbildung in Roms auswärtigen Beziehungen. Wege und Perspektiven der Forschung,” in *Roms auswärtige Freunde in der späten Republik und im frühen Prinzipat*, ed. A. Coskun (Göttingen: Duehrkohp & Radicke, 2005) and the contributions to T. Kaizer and M. Facella, eds., *Kingdoms and Principalities in the Roman Near East*, vol. 19, *Oriens et Occidens* (Stuttgart: Franz Steiner, 2010).

4 There were, to be sure, states that were not congruent with national identities in the classical sense: the Soviet Union, Yugoslavia, China, India – accounting together for a large proportion of the world population. In addition, there were empire-like structures, such as the Eastern – and arguably also the US-led Western – bloc.

5 H.-He. Nolte, *Weltgeschichte des 20. Jahrhunderts* (Vienna: Böhlau Verlag, 2009), 208–212; M. Hardt and A. Negri, *Empire* (Cambridge, MA: Harvard University Press, 2000), 67–204.

6 From the point of view of systems theory see Ni. Luhmann, “Die Weltgesellschaft,” *Archiv für Rechts- und Sozialphilosophie* 57 (1971).

7 On the following: I. Geiss, *Nation und Nationalismen. Versuche über ein Weltproblem. 1962–2006* (Bremen: Edition Lumière, 2007), 157–185; M. W. Doyle, *Empires*, 2nd edn. (Ithaca, NY: Cornell University Press, 1988); H. Münkler, *Imperien. Die Logik der Weltherrschaft - vom Alten Rom bis zu den Vereinigten Staaten* (Berlin: Rowohlt, 2005); I. Geiss, “Great Powers and Empires. Historical Mechanisms of Their Making and Breaking,” in *The fall of the Great Powers. Peace, Stability and Legitimacy*, ed. G. Lundestad (Oslo: Scandinavian University Press, 1994); “Krieg und Macht als historische Universalien,” in *Krieg – Gesellschaft – Institutionen. Beiträge zu einer vergleichenden Kriegsgeschichte*, ed. B. Meißner, O. Schmitt, and M. Sommer (Berlin: Akademie Verlag, 2005).

8 See B. Anderson, *Imagined Communities. Reflections on the Origin and Spread of Nationalism*, 7th edn. (London: Verso, 1996).

9 For an overview as useful as it is succinct: K. Christ, *Geschichte der römischen Kaiserzeit von Augustus bis zu Konstantin*, 3rd edn. (Munich: C. H.

Beck, 1995), 1–13.

10 For instance E. Badian, *Roman Imperialism in the Late Republic*, 2nd edn. (Oxford: Basil Blackwell, 1968); J. North, “The Development of Roman Imperialism,” *Journal of Roman Studies* 71 (1981); K. Raafaub, “Born To Be Wolves? Origins of Roman Imperialism,” in *Transitions to Empire. Essays in Greco-Roman history, 360–146 B.C. in honour of E. Badian*, ed. R. W. Wallace and E. M. Harris (Norman, OK: University of Oklahoma Press, 1996); C. B. Champion, *Roman Imperialism: Readings and Sources*, 6th edn. (Malden, MA: Blackwell, 2008); W. V. Harris, *War and Imperialism in Republican Rome. 327–70 B.C* (Oxford: Clarendon Press, 1979).

11 G. Woolf, “Imperialism, Empire and the Integration of the Roman Economy,” *World Archaeology* 23 (1992); D. J. Mattingly and S. E. Alcock, eds., *Dialogues in Roman Imperialism. Power, Discourse, and Discrepant Experience in the Roman Empire* (Portsmouth, RI: Journal of Roman Archaeology, 1997); S. Scott, “Provincial Art and Roman Imperialism: An Overview,” in *Roman Imperialism and Provincial Art*, ed. S. Scott and J. Webster (Cambridge: Cambridge University Press, 2003).

12 J. Webster, “Roman Imperialism and the Post-Imperial Age,” in *Roman Imperialism. Post-Colonial Perspectives*, ed. J. Webster and N. J. Cooper, Leicester Archaeology Monographs (Leicester: School of Archaeological Studies, University of Leicester, 1996); “Necessary Comparisons. A Post-Colonial Approach to Religious Syncretism in the Roman Provinces,” *World Archaeology* 28 (1997).

13 As pointed out by Anchises in Verg. Aen. VI, 851–853: *tu regere imperio populos, Romane, memento / (hae tibi erunt artes), pacique imponere morem, / parcere subiectis et debellare superbos*.

14 T. Mommsen, *Römisches Staatsrecht*, 3rd edn. (Leipzig: Hirzel, 1887), vol. II.2. For a comprehensive summary see Feliciano Serrao, “Il modello di costituzione. Forme giuridiche, caratteri politici, aspetti economico-sociali,” in *L'impero mediterraneo. 2: I principi e il mondo*, Storia di Roma, ed. G. Clemente, F. Coarelli and E. Gabba (Torino: Giulio Einaudi, 1991). For a critical reappraisal A. Winterling, “‘Staat’, ‘Gesellschaft’ und politische Integration in der römischen Kaiserzeit,” *Klio* 83 (2001).

15 See now, for instance, the contributions to M. Pitts and M. J. Versluys, “Globalisation and the Roman World. Perspectives and Opportunities,” in *Globalisation and the Roman World. World History, Connectivity and Material Culture*, ed. M. Pitts and M. J. Versluys (Cambridge: Cambridge University Press, 2015).

16 Most impressively, recently, G. Woolf, *Rome. An Empire's Story* (Oxford: Oxford University Press, 2012). See also R. Hingley, *Globalizing Roman Culture. Unity, Diversity and Empire* (London: Routledge, 2005) and the contributions to A. Rubel, ed., *Imperium und Romanisierung. Neue Forschungsansätze aus Ost und West zu Ausübung, Transformation und Akzeptanz von Herrschaft im Römischen Reich*, vol. 1, Studien zu Archäologie und Geschichte des Altertums (Konstanz: Hartung-Gorre Verlag, 2013); G. Schörner, ed., *Romanisierung – Romanisation. Theoretische Modelle und praktische Fallbeispiele* (Oxford: Archaeopress, 2005).

17 E.g. M. Konrad, “Dimorphe Gesellschaften als Profiteure im Kräftespiel der Territorialmächte Rom und Persien,” *Journal of Roman Archaeology* 21 (2008).

18 Kehne, “*Externae gentes*,”; John, “Klienten,”; M. R. Cima, *Reges socii et amici populi romani* (Milan: A. Giuffrè, 1976); Braund, *Rome and the Friendly King*, and, in general, the contributions to Ernst Baltrusch and Julia Wilker, “*Amici – socii – clientes?* Abhängige Herrschaft im Imperium Romanum,” in *Amici – socii – clientes?* and Kaizer and Facella, *Kingdoms*.

19 E.g. G. P. Burton, “The Roman Imperial State, Provincial Governors and the Public Finances of Provincial Cities. 27 B.C.–A.D. 235,” *Historia* 53 (2004); D. Faoro, *Praefectus, procurator, praeses. Genesi delle cariche presidiali equestri nell’Alto Impero Romano*, vol. 8, Studi udinesi sul mondo antico (Florence: Le Monnier università, 2011); E. Meyer-Zwiffelhoffer, *Politikōs archein. Zum Regierungsstil der senatorischen Statthalter in den kaiserzeitlichen griechischen Provinzen*, vol. 165, *Historia Einzelschriften* (Stuttgart: F. Steiner, 2002).

20 On *amicitia* in Roman politics: J. Spielvogel, *Amicitia und res publica. Ciceros Maxime während der innenpolitischen Auseinandersetzungen der Jahre 59-50 v. Chr* (Stuttgart: Franz Steiner Verlag, 1993); U. Gotter, “Cicero und die Freundschaft. Die Konstruktion sozialer Normen zwischen römischer Politik und griechischer Philosophie,” in *Vergangenheit und Lebenswelt. Soziale Kommunikation, Traditionsbildung und historisches Bewußtsein*, ScriptOralia, ed. H.-J. Gehrke and A. Möller (Tübingen: Gunter Narr, 1996).

21 On patronage in Rome, see Elizabeth Daniaux, “Patronage,” in *A Companion to the Roman Republic*, ed. N. Rosenstein and R. Morstein-Marx (Malden, MA: Blackwell, 2007); M. Gelzer, “Die Nobilität der römischen Republik,” in *Kleine Schriften* (Wiesbaden: Franz Steiner, 1962), 68–75.

22 Suet. div. Aug. 60. On the habitual aspects of client kingship, see now Wendt, “More clientium,” 30–31.

23 Cass. Dio LXVIII, 18.1: ‘Upon his arrival in Antioch, Abgarus of Osroene sent gifts and a message of friendship, though he did not appear in person; for, as he dreaded both Trajan and the Parthians alike, he was trying to be neutral and for that reason would not come to confer with him.’

24 Ibid., 68,21,1. The ruler of ‘Arabia,’ Mannos, was in all likelihood Ma’anu, the ‘lord’ of the eastern Mesopotamian city of Hatra at that time (M. Sommer, *Hatra. Geschichte und Kultur einer Karawanenstadt im römisch-parthischen Mesopotamien* (Mainz am Rhein: Philipp von Zabern, 2003), 27).

25 Cass. Dio LXVIII, 22. 2.

26 Cass. Dio LXVIII, 68. 21, 2–3.

27 On the origins: H.-J. Gehrke, *Geschichte als Element antiker Kultur. Die Griechen und ihre Geschichte(n)*, vol. 2, Münchner Vorlesungen zu antiken Welten (Berlin: De Gruyter, 2014), 35. See also T. Stickler, *Aëtius. Gestaltungsspielräume eines Heermeisters im ausgehenden Weströmischen Reich* (Munich: Beck, 2002), 15.

6. Sinews of the other empire: The Parthian Great King's rule over vassal kingdoms

Leonardo Gregoratti

Abstract: *The Great Kings of Parthia, belonging to the Arsacid dynasty, ruled a large empire in south-western Asia, from India to the Euphrates, for more than three centuries (first century BC–third century AD). Within the large geographical area controlled by the Arsacids, next to the satrapies directly controlled by royal officers, a series of autonomous kingdoms existed, ruled by local dynasties, which in some cases existed before the coming of the Parthians, and whose authority over their territories was acknowledged by the Great King. Unlike the Roman ones, the Parthian vassal kingdoms never ceased to be one of the most important means the Great King had at his disposal to control key areas of his vast dominions. This paper investigates the different solutions the Arsacids conceived and put into action in order to keep control over those political subjects. The employment of three main forms of action: maintaining a local dynasty, temporary direct occupation and the creation of a client kingdom ruled by an Arsacid monarch, over the whole spectrum of client states will be the subject of the investigation*

Keywords: Parthian Empire, Arsacids, Characene, client kingdoms

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Introduction

More than twenty years ago, in 1994, in the pages of the journal *Iranica Antiqua*, the British archaeologist Edward John Keall posed to himself and to the community of the not-so-many scholars, at that time, dealing with the antiquities and history of the Parthian Empire, a crucial and provocative question: How many kings did the Parthian King of Kings rule?¹ The article was destined to be one of the Keall's last academic contributions concerning the Arsacids, and was a first attempt to draw some general conclusions after many years spent excavating among the ruins of the Arsacid kingdom.

As a young student of archaeology during the 1960s, Keall began to gain experience in the field excavating the palatial and fortified Parthian complexes of Qal'eh-i Yazdigird,² in Iran and later Nippur, in modern Iraq.³ To the young scholar the archaeological traces of what was at that time still a largely unknown and mysterious state should have appeared the product of a category of 'lesser mortals' compared with the imposing ruins of Hasanlu and Pasargadae, expressions of the much more illustrious empires of the Medians and the Achaemenids. Nonetheless, as attested by their coinage and by the narrations of their rivals in the West, the Romans, the Parthian kings despite their difficulties in establishing a state not comparable as it seems in power and solidity with those of their predecessors, did not renounce to adorn themselves with the prestigious title of 'King of Kings.'⁴

The disparity observed by Keall between the Parthian monarchs' ambitious claims and their apparent effective power was at the origin of his well-known definition of the Arsacids as 'the political clowns of the millennium,'⁵ a definition which immediately, despite his dislike for clowns, stirred in the present author an instinctive and sympathetic interest for a so badly treated people of the past, an interest which brought him eventually to spend many years working on the Parthians.

Many years later, in the article mentioned at the beginning of this paper, Keall himself gladly moved from his primitive and astonishingly negative conception of the Parthian Empire to a more balanced idea of the Arsacid rule, posing the basis, in my opinion, of a new conception of the Parthian Empire as a network or confederacy of political and cultural realities that we are now rediscovering and developing.⁶

The troubles and the frequent inner political crises which the Parthian kings had to face are evident. In particular, at the beginning of the first century AD the Arsacid Empire reached the highest point of a long-lasting condition of social and institutional instability. The

Great King's leadership had been de facto overruled, and monarchs were maintained with the sole intent of providing a formal legitimacy for the power gained by one or the other among the aristocratic groups. Parthia was torn by competition, the crown weakened by strife among noble groups.⁷

How could it be possible, asked Keall, that a political subject that went through regular periods of deep crisis could last for almost half a millennium, challenging with success Rome's supremacy in western Asia and withstanding the clash with the most formidable military power of the ancient world? Keall suggested a possible answer in the concept of flexibility.⁸ According to his approach, the structure of the Parthian Empire had to be analysed from a new point of view, a point of view free from the 'standards of our own perception of empire which is perhaps based on nineteenth century concepts.'⁹ This traditional idea of empires, if not so recent as Keall maintains, is probably influenced by the examples of the Roman Empire and of the oriental empires which preceded or followed the Arsacids.

The Parthian monarchy had no strong centralised power, nor a strong imperial apparatus. It had no official orthodox religion and lacked a rooted and extensive presence on the territory. Nevertheless, in the middle of the first century BC Parthian rule stretched from the Euphrates to northwest India, including Mesopotamia, Iran and all the territories lying between the Persian Gulf and the Indian Ocean to the south and the Caspian Sea and the Caucasus to the north.

Across this huge territory, the Parthian kings decided to maintain most of the political structures they encountered upon their arrival.¹⁰ Thus from its very beginning the Parthian Kingdom was characterised by a strongly decentralised nature. Within its borders widely varying realities coexisted. The Arsacid monarchs would confer some of their royal prerogatives to local groups of power, which were strongly rooted in the territory, in order to ensure the control of the most important districts. In the land formally submitted to the Great King's authority there were thus local dynasties endowed with an independent political life and administrative organization. These 'client' kings were influenced in their activity, as were the provincial governors, by the oath of allegiance they took to the Parthian king. Nonetheless, their high degree of autonomy allowed them to develop an individual semiautonomous policy.¹¹

Throughout Arsacid history these minor political entities tried to take advantage of the periodic weakness of the central authority to loosen the control the Great King was able to exert over their

government activity and increase their level of autonomy. According to the traditional idea of empire, this situation would be the expression of a 'chaotic' ruling system, a system in crisis on the verge of disintegration. The Arsacid government system would surely have collapsed if continuous attention to the institutional duties of the dynasts had not balanced the autonomy granted. The authority of the legitimate descendant of Arsaces was formally acknowledged as superior by the 'client' kings and the other political subjects. This is the 'flexible empire' Keall had in mind, a state able to maintain strong ties with the local realities without being forced to be effectively present on the territory.

According to this approach, the Great King was the leader of a confederation of different political subjects, each enjoying substantial autonomy and maintaining its cultural identity. These undoubtedly interconnected entities constituted a real structural network of political entities which, though developing and transforming through time, remained the backbone of Arsacid rule. The existence of such a network along with the vital role it played was the original element that differentiated the Parthian state from other contemporary as well as past empires, perhaps associating it more with those founded by Central Asiatic nomads to the east, like the Kushan state, for example.¹²

The history of the relations between the Parthian Great King and his royal servants can thus be explained as the search for a balance between autonomy, whose benefits both for the local courts and the central power were evident, and the dangerous centrifugal forces originating in the peripheral areas of the empire. These forces could not be underestimated in a geopolitical situation in which the greatest rival of the Parthians, Rome, was enacting a policy of political and economical expansion in the East.

After a local or more general crisis, once able to regain its solidity, the Parthian leadership found itself thus compelled to act, through military and political means, in order to restore the bond of allegiance with the vassal rulers. A loyal vassal king constituted for the Parthian sovereign a valuable ally to solve international and internal problems. The link between client sovereigns and central authority was vital for the whole empire and was built and maintained employing different political methods. The continuous attention the Great King devoted to strengthen and rebuilt the bounds which held together the Arsacid sovereigns with the local lords is well expressed by the acknowledgment of emerging new local authorities.

In the second half of the second century AD, probably after the Roman conquest of northern Mesopotamia, when they assumed a relevant role on the frontier of the empire, the lords (*marya*) of Hatra adopted the title of king,¹³ an evolution which had already taken place a long time before, as Andreas Luther has demonstrated, in the neighbouring kingdom of Edessa, ruled by the Abgarid dynasty.¹⁴ Potentates like the Abgarids and perhaps the so-called Indo-Parthian¹⁵ kings of the Surene dynasty prove the versatility and flexibility of Parthian rule. New political subjects could easily be created, either following a decision of the Great King or, more often, by gaining a formal ordination for a power already exerted in an area.¹⁶

The versatility and flexibility of Parthian rule can be seen also in the different ways adopted in dealing with the most ancient Arsacid vassal kingdoms. Not a few among the 'client' monarchies were actually able to date their origins back in time until the late period of Seleucid rule. The Characenian Kingdom, for example, constitutes the better known among these ancient principalities which pre-dated Parthian rule. Facing the Arsacid menace from the east and the dwindling hope for metropolitan support, Hyspaosines, the Seleucid governor, proclaimed himself king. In the years between 141 and 139 BC, when the Arsacid advance westward was stopped by the sudden death of the Great Kings Mithridates and Phraates in Central Asia, he exploited the political vacuum in Mesopotamia to start a policy of territorial expansion, as attested by the cuneiform documents from Babylon.¹⁷

The apogee of Characenian power was short-lived. By the end of 127 BC the Arsacid generals managed to enter Babylonia, compelling the Mesenian troops to retreat within their kingdom's borders. After that a new energetic Arsaces, Mithridates II, came to power, and the capacity of resistance of the little kingdom failed. Hyspaosines' last monetary emissions date from 121/120 BC. Later the Parthian king struck his coins on his rival exemplars, a clue to a Characenian defeat.¹⁸

The Characenian Kingdom constitutes the best-known case of a state characterised by a strong local cultural identity and ruled by local dynasts before the Parthian conquest. The relative abundance of the sources concerning the passage of that little kingdom from independence to Parthian rule are able to shed light on the decisions taken and the policy employed by the Great King in order to extend Parthian control over once independent political subjects.

First solution: the client kingdom ruled by the local dynasty

Controlling Mesene proved a difficult task. The entire kingdom was characterized by extensive marshy areas. Heirs of the Seleucid naval organisation in the Persian Gulf, the kings of Characene were able to exert effective control over the sea routes connecting Mesopotamia with India, a trade that increased in importance with the rise of Roman power in the west and the demand for oriental goods by its elites. The Arsacid kings soon understood that such commercial traffic could represent a huge source of revenue, and that the relative autonomy of the local monarchs played an important role in the trade. These factors spoke against a direct occupation of Characene by the Parthians. Other solutions should thus be conceived and put into action.

Apodakos, Hyspaosine's son and successor, was acknowledged as king of Characene and he maintained his father's throne as a vassal monarch of the Parthian Great King, bound to him by an oath of allegiance.¹⁹ The local dynasty was allowed to maintain power in the kingdom and Apodakos was granted the right to strike his own coins. This seems to be the normal condition for the monarchs subdued by the Parthians, particularly when they were responsible for areas of crucial interest.

This same condition was shared also by the Abgarids, the Arab kings of Osroene, who guarded the crossings of the Euphrates. The beginning of the Osroene kingdom is marked by the settlement of the *Orrhoei* Arabs mentioned by Pliny²⁰ in the territory of Edessa, a city founded by the Seleucids on the route connecting Antiochia, the capital, with Seleucia on the Tigris in central Mesopotamia, and the centres of Nisibis and Arbela with the eastern satrapies. The *mary'*, or lords, of Edessa were responsible on behalf of the Great King for a territory at the westernmost periphery of the Arsacid kingdom. Osroene's geographical position, immediately east of Seleucia Zeugma, the most important crossing point on the Euphrates, on the main penetration route into Parthian land, rendered the Abgarid state one of the primary targets of any Roman military enterprise.

The late literary sources shedding light on the very first period of the Osroenian Kingdom date the rule of the first sovereign to the years 135–131 BC.²¹ As stated above the Parthians were in those same years completing the conquest of Babylonia and Mesopotamia. It is probable therefore that the Arsacids played a fundamental role if not in the rise of the local lordship, then at least in supporting it during its early period.

Another example can be taken into account. According to the several scattered references in Strabo's work, the mountain tribe of the Elymaeans gradually descended from the Zagros mountains and abandoned in part their nomadic lifestyle, settling in the plain of Susa.²² A few years before the arrival of the Parthians they took advantage of the weakening of the Seleucid power, creating an independent kingdom.

Between 147 and 140 BCE the Elymaean dynasty of the *Kamnaskires* began to strike a first series of local royal coins.²³ Babylonian documents record that in the following years the Elymaean kings were able to conquer Susiana and to threaten Babylonia (141 and 139 BC). They probably took part in Demetrius II's coalitions against the Arsacid expansion.²⁴ Once defeated by the Parthians they witnessed the plundering of their mountain sanctuaries²⁵ before being included in the Parthian client-kingdom system. This fate was shared by the local kingdoms of Persis²⁶ and Media.²⁷

The Characenian, the Abgarid and the Elymaean dynasties continued to play an important role in the Parthian Empire, controlling strategic areas on behalf of the Parthian king, supporting the Great King's foreign policy and providing military contingents for his campaigns against internal and external enemies. After their defeat or submission all these local lords were included in the Arsacid administrative system, forming a confederation of political subjects, a network of interconnected ruling centres, directly linked to the Great King through a bond of loyalty.

Second solution: occupation

After the political triumph represented by the Rhandaia treaty in 63 AD and his victory against the Romans in Armenia, the Great King Vologases I worked hard to realise his policy of structural consolidation of the Arsacid kingdom.²⁸ The Characenian Kingdom, which in the meantime had become an important economic power, would hardly have found a place in the political plans conceived by the new Arsaces. The scanty sources do not allow us to clarify with precision what was the political fate of the south Mesopotamian kingdom during the reign of Vologases I (c. 51–80 AD) and his successor Pacoros II (80–110 AD).

The last Characenian coins are dated 74/75 AD. Until 101/102 AD no further Characenian royal emission is attested. It is hard to

state whether the probable use of military strength by the Arsacids determined an effective annexation of the Characene or, on the contrary, the Great King substituted only the kingdom's leading dynasty, revoking their right to strike coins and by so doing depriving modern scholars of the information provided by numismatics. Without these in fact it is impossible to reconstruct the list of the monarchs who during that span of time ruled Characene.²⁹

According to Chinese sources, it seems that in those years the Parthian Great King's control over the country had been enforced. The Arsacids seem to have militarily occupied the entire area, transforming Characene into a Parthian satrapy and nominating an army official as responsible for the points of major economic interest: the cities and river harbours. It seems clear that this solution was temporary and that it was determined by Vologase's need to reaffirm his authority over his vassal monarchs.³⁰ In 101 AD, in fact the local royal rule was restored.

The same temporary solution, that is to say the direct occupation of a vassal kingdom, was also adopted for Osroene as a consequence of Crassus' invasion. After Charrae (53 BC) the Edessenian king, Abgar II, seemed to fall into disfavour at the Arsacid court. The city was occupied by the victorious Parthian troops and for a short time the king's authority was abolished and the government of a Parthian representative was established in its place (first interregnum). The next monarch, Ma'nū II, probably belonged to a minor branch of the royal family or to a rival clan, closer to the Arsacid authority. It seems clear that these measures were aimed at punishing Abgar's too open policy towards the Romans.³¹ We cannot exclude that the kingdoms were occupied again under Pacoros' II rule between 91 and 109 AD, when the Great King gave the control of the region to a certain Abgar VII bar Ezad who seemed to have no links with the previous ruling house.³²

A similar solution of direct military occupation of the client kingdom in preparation for the appointment of a new local monarch was probably in the plans of the Great King Vologases I concerning the powerful kingdom of Adiabene, in the river Tigris area, which was ruled by Izates. Due to the decisive support he had given to the former Arsaces Artabanus II, Izates was able to obtain a series of relevant privileges and territorial gains which enhanced his kingdom's autonomy from the Great King. The new, energetic Great King Vologases could hardly tolerate such a situation and ordered Izates to renounce his privileges.³³

When the attempt to trigger a revolt within the kingdom in order to put on the throne Monobazus, the more amenable brother of the king, failed, Vologases decided to invade the kingdom, forcing Izates to prepare a strenuous resistance (52 AD). The imminent conflict with the Romans for Armenia forced the Great King to interrupt the invasion and to wait until Izates' death (60–62 AD) to appoint Monobazus as new king, a king more inclined to follow the political instructions coming from Ctesiphon.³⁴ In this case again, the invasion solution seems to have been conceived as temporary.

In all the scenarios taken into consideration the invasion and occupation of a client kingdom seems to be a temporary solution, conceived to punish a ruler and to support another member of the local dynasty with the strength of the Parthian army. The occupation is not seen as a definitive settlement of the conflict with a local dynast, but as a means, however extreme, to intervene directly in the local succession to the throne by the Great King.

Third solution: the client kingdom ruled by an Arsacid monarch

Back in power in 101 AD, the warlike Characenian dynasty was not disposed to renounce its autonomist prerogatives. King Attambelos VII, hearing that Trajan with an army and a fleet was approaching Mesene, without much ado went to the northern borders of his kingdom to greet him and offer his submission. The failure of the invasion and Trajan's death meant Attambelos' political ruin. The monarchs who followed bear Iranic names. Very likely the Parthians solved the Characenian problem by placing on the throne a member of the Arsacid dynasty and putting an end to the Hypsposinid line of succession.

As attested by the famous inscription on the statue of Heracles from Seleucia on the Tigris, Meredates, the new king of Characene, was a son of Pacoros, former Parthian Great King and brother of the Great King Vologases II, his successor.³⁵

Apart from Characene this ruling solution seems to have been adopted in the kingdom of Elymais as well. By 75 AD, the city of Susa had fallen into the hands of Elymaean kings, but there had also been a radical change in the kingdom. The previous Kanmaskirid dynasty, strongly nationalistic and decidedly intolerant of being subjected to Ctesiphon, originator and promoter of the westward expansion, had given way to a new royal clan, proudly related to the Arsacid royal house whose members bore Iranic names.³⁶

The political moves and the offences committed by the Kamnaskirids against Susiana and its lord, the Arsaces monarch, could no longer be tolerated in an administrative system that wanted to restore the dependency of 'client' dynasties on the central authority. Thus it seems very likely that the inauguration of a pro-Arsacid reigning dynasty was the result of an intervention by the royal authority, aimed at regaining control of southern Mesopotamia and of the Iranian southeast.

The loss of direct control over Susa was a concession of little importance compared with the advantages that the crown would gain from the presence in Elymais of a loyal ally; as was the new dynasty which remained on the Great King's side until the collapse of the empire.³⁷ The same solution seems also to characterise the kingdom of Media Atropatene in the last period of its history.³⁸ Starting with the Great King Artabanus II, through Gotarzes, Vonones II and his son Pacoros II, the rulers of Media were members of the ruling Arsacid family and therefore allowed to take the authority and the title of Great King of Parthia. In the new order of Vologases I, his brother Pacoros sat on the Median throne, institutionalising as it seems the close parental bond between the two courts.³⁹

Putting a member of the Arsacid ruling family on the throne of a client state was the solution Vologases had in mind also for the kingdom of Armenia. At the end of the long war against Rome, his brother Tiridates ruled Armenia, starting the Armenian Arsacid royal line that would survive long after the fall of the main one in Parthia.⁴⁰

Placing an Arsacid on the thrones of the various Parthian client kingdoms seems to have been the final solution adopted by Vologases I onwards finally to keep those minor states under the firm control of the central authority. Local dynasties were substituted by a branch of the Arsacid ruling family in order to confer stability and cohesion to the whole empire.

The entire network of local political subjects was now built on and strengthened by the parental relations that linked each monarch with the others and all of them with the ruling Great King.

Conclusion: a 'flexible' empire

The interconnection that existed between Great King and Parthian client kingdoms, though versatile and sometimes invisible, seems to be one of the structural pillars of the Arsacid state. A spectrum of different solutions were adopted by the Great Kings to maintain that

bond depending on geopolitical characteristics, political situation and historical circumstances.

The case of Characene and of the other client subjects demonstrates that the Parthian Kingdom was not a monolithic state. It was an extremely dynamic political subject whose ruling classes were able to conceive and put into action the most suitable political solution in order to assure their control over key lands. A flexible structure of government which preserved, through various means as has been shown, local autonomy, was maintained through the whole history of the Parthian state. The client kingdoms never ceased to be a fundamental structural element of the Parthian Empire and were never forced to renounce their independence if not for short periods. The military occupation of their territories by the central authority was a temporary solution adopted to face an emergency situation or to facilitate a change of the local leadership.

The Great King shared his power at a local level with a network of interconnected local political entities, which constituted the basis of his political and territorial rule, and the secret of his state's strength. The structure of the Parthian Kingdom was based on the coexistence along the central authority of a network of political realities which the Great King in only in few cases decided to absorb under direct rule. This kind of rule, performed through a network of minor political subjects, carefully preserved through the whole of Parthian history by employing local or Arsacid monarchs, conferred extreme flexibility on the Parthian Empire.

As observed by John Keall twenty years ago, flexibility was the key-concept, a flexibility too often confused, by ancient authors and modern scholars as well, with weakness, which allowed the Arsacids to rule for centuries and play a relevant historical role. After many years spent digging among the ruins of the Arsacid Empire, in the last lines of his article Keall expressed all his appreciation for that people of the past.

The Parthians, with their 'various formulae of power sharing,' having definitively dismissed the part of 'political clowns,' transmitted in Keall's mind, 'a remarkable lesson for the bigoted interests in the world today, which seems hell-bent on self-destruction.'⁴¹

Notes

- 1 E. J. Keall, "How Many Kings did the Parthian King of Kings Rule?" *Iranica Antiqua* 29 (1994), 254–272; The title refers to the well-known passage by Pliny (*N. H.* VI, 112) in which the ancient naturalist individuates 18 *regna*

ruled by the Parthian Great King, sharing the same difficulties as modern scholars in distinguishing between Parthian vassal kingdoms and satrapies.

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3 E. J. Keall, "Parthian Nippur and Vologases' Southern Strategy: A Hypothesis," *JAOS* 95 (1975), 620–632.

4 G. J. Griffiths, "Basileus Basilewn: Remarks on the History of a Title," *ClPh* 48 (1953), 145–154; D. Sellwood, *An Introduction to the Coinage of Parthia* (London: Spink and Son Ltd., 1980) Scholars Press for Brown Judaic Studies, 28, 80; J. Wolski, "Le titre de 'Roi des Rois' dans l'idéologie monarchique des Arsacides," *AAntHung* 30 (1982–1984), 159–166; Keall, "How Many Kings," 255–256; R. Fowler, "'Most Fortunate Roots': Tradition and Legitimacy in Parthian Royal Ideology," in *Imaginary Kings, Royal Images in the Ancient Near East, Greece and Rome*, *Oriens et Occidens* 11, ed. O. Hekster and R. Fowler (Munich: Franz Steiner Verlag, 2005), 141, 146–147; D. Engels, "'Je veux être calife à la place du calife'? Überlegungen zur Funktion der Titel 'Großkönig' und 'König der Könige' vom 3. zum 1. Jh. v. Chr.," in *Interconnectivity in the Mediterranean and Pontic World during the Hellenistic and Roman Periods (Actes du colloque international, Constantza, 8–12 juillet 2013)*, ed. V. Cojocaru, A. Coşkun and M. Dana, (Cluj: Mega Publishing House, 2014), 333–362.

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6 Keall, "How Many Kings," 270–272; L. Gregoratti, "The Journey East of the Great King, East and West in the Parthian Kingdom," *Parthica* 15 (2013), 4546. This idea is implicitly present in the organisation of the topics in the 1996 Eutin conference by Josef Wiesehöfer, *Das Partherreich und seine Zeugnisse*, the proceedings of which (J. Wiesehöfer, *Das Partherreich und seine Zeugnisse, Beiträge des internationalen Colloquiums. Eutin (27.–30. Juni 1996)* (Stuttgart: Franz Steiner Verlag, 1998) constitute the foundation stone of modern research on the Parthian Kingdom.

7 Suet., *Tib.*, 16. 1; *Res Gestae* 33; Tac. *Ann.*, II. 1–3; VI, 36 e 42; Cass. Dio, XL, 15. 3–4; Flav. Ioseph., *Ant. Iud.*, XVIII, 45–46; K. Schippmann, *Grundzüge der parthischen Geschichte*, Grundzüge 39 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1980), 49; E. Dąbrowa, *La politique de l'état parthe à l'égard de Rome-d'Artaban II à Vologèse I (ca 11–ca 79 de n. è.) et les facteurs qui la conditionnaient*, *Uniwersytet Jagielloński, Rozprawy Habilitacyjne* 74 (Kraków: Kraków, Nakł. Univ. Jagiellońskiego, 1983), 44–45; R. N. Frye *The History of Ancient Iran*, HAW III, 7, (Munich: C.H. Beck Verlag, 1984), 237; E. Dąbrowa, "Les héros de luttes politiques dans l'état parthe dans la première moitié du Ier siècle de notre ère," *Iranica Antiqua* 24 (1989), 311–322; J. Wolski, *L'Empire des Arsacides*, *Acta Iranica* 32 (Leuven: Peeters, 1993), 149–150; A. Verstandig, *Histoire de l'Empire Parthe (-250/227)* (Belgium: Edition LE CRI, 2001), 231–247.

- 8 Keall, "How Many Kings," 271–272.
- 9 Keall, "How Many Kings," 270.
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7. Speech patterns as indicators of religious identities: The Manichaean community in Late Antique Egypt

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Abstract: *Late Antique Christians and Manichaeans revealed their religious identities by their choice of words. Current research has focused on identifying these words and phrases as ‘identity markers,’ while major questions about why and how these phrases were employed are left unanswered. If lexical choices in ancient papyri indicate social and religious dynamics, social network analysis could highlight when, where and how a particular vocabulary was deemed appropriate. This situational reading of ‘identity markers’ conceptualises words within a particular context as strategic, rhetorical and occasional constructions. This paper will present three strengths of social network analysis, in particular through an experimental case study into the linguistic variation in papyrus letters from the Manichaean community in Kellis (fourth-century Egypt). Instead of one coherent group of Manichaeans, we encounter multiple families and individuals during various moments in their lives and in constant interaction with each other and the outside world.*

Keywords: Manichaeism; Late Antiquity; Egypt; religious identifications; sociolinguistics

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Introduction

Social network analysis is potentially a valuable tool for the study of papyrology. The large number of papyrus documents from the Egyptian desert, especially those that name persons and places, provides fertile ground for network analysis. But is network analysis only helpful with large databases? This chapter aims to apply social network analysis to a relatively limited corpus of documentary texts from fourth-century Egypt: the Kellis documentary papyri. The exceptional content of this corpus of documentary texts may legitimise this experiment, for it includes the only personal letters of Manichaeans in the Roman Empire.

Manichaeism originated with the self-styled 'Apostle of Light' Mani (c. AD 216–276), who preached a dualistic message about the Kingdom of Light and the Kingdom of Darkness and, according to the tradition, established the first transregional 'church' (*ekklesia*), which spread from the Sassanian empire into the Roman world and far into China. Manichaeans not only claimed that their church superseded all previous 'churches' in the East and the West, which was presented as one of the ten advantages of Manichaeism (Kephalaia 151), but their documents are attested all over the ancient world.¹ In Egypt, the papyri discovered during the twentieth century included many Manichaean texts. The Coptic documents from Medinet Madi, comprising Manichaean liturgical and theological texts, and the Greek biography of Mani (the Cologne Mani Codex) have been complemented recently by documentary letters from Kellis found in the 1990s.

The rich treasure of Greek and Coptic documents from the Manichaean tradition presents the Manichaeans in a Christian garb. Not only did they refer to their central deities with Christian names like 'Jesus the Splendour,' but they employed a linguistic repertoire in their everyday letters that was shared with Christians. This shared repertoire has made it difficult to distinguish between the Catholic Christians and Manichaeans living in fourth-century Kellis. The find location of some of the personal letters, next to Manichaean liturgical texts, and the occasional explicit Manichaean identifications, however, established their religious context beyond doubt.² The excavations in the village of Kellis (modern Ismant el-Kharab) amidst adjacent towns in the Dakhleh Oasis (Western desert, Egypt) offer a unique chance to study the everyday interactions of Manichaeans in a social and historical context.

Living in an oasis village, far from the commercial centres of the Nile valley, the Kellites travelled back and forth from the oasis while

sending letters to relatives in their home village or in towns closer to the Nile. Many of these letters address mundane domestic issues and contain everyday requests for support, like sending garments, new sandals or particular food commodities. Occasionally, these requests were phrased in a very particular repertoire of Manichaean words, formulae or otherwise recognisable idioms. These speech patterns are often the only way to recognise Manichaeans, or Christians, in the absence of explicit identifications.

The crucial role of speech patterns, by which I mean the patterns of word usage and/or choice of phrases and formulae, has led to a large number of publications seeking precise criteria to establish either a Christian or Manichaean background. The publication of the Manichaean letters from Kellis has sparked debate, for example, over the religious background of earlier published documents like P.Har. 107 and P.Oxy. 31.2603 which are now classified as ‘Manichaean’ because of their similarity to the Kellis letters.³ Despite these careful reconsiderations, the assessment of religious identities in Late Antique papyri on the basis of speech patterns has often remained one-dimensional. Speech patterns have been treated as either reflecting or representing a singular and fixed group, neglecting the idea that identity is ‘not *expressed through* but *constituted by* social discourse.’⁴ Current research has focused on identifying words and phrases as belonging to a particular Christian or Manichaean repertoire, while major questions about why and how these phrases were employed are left unanswered.⁵

This study will explore how a social network approach can contribute to a theoretical framework of religious identifications. Incorporating questions and concepts from papyrology, sociology and the study of religion, the aim is to illustrate a social network approach towards situations in which a Manichaean identification mattered in the mundane world of Kellis. After a short introduction to the Manichaean letters from Kellis, three strengths of social network approaches will be presented in the form of a case study into the Kellis material. From this case study, strengths and weaknesses will be highlighted as road signs on the way to a more situational reading of religious identifications in ancient papyri.

The Manichaean community in Kellis

According to the anthropologist of religion Tanya Luhrmann, religious converts acquire a shared language of faith during their conversion

process, that entails a particular lexicon, a structure of logic (syntax) and a common plotline (such as those attested in conversion narratives).⁶ Such a language of faith, often attested by sociologists and sociolinguists, contributes to the sense of belonging to a religious group and is used by individual agents, for example to identify one another during uncertain times. Examining papyrus documents for these types of ‘identity markers’ is therefore more dynamic than the quest for solid criteria and ‘acknowledges factors that Christians themselves used to denote their identity, factors which nonetheless left room for multiple and shifting dynamics of identity.’⁷

One of the main factors to be reckoned with is the constitution of the Manichaean community of elect and catechumens. The elect were ascetic holy men and women, living the perfect virtuous life of poverty. This lifestyle made their bodies capable of liberating the divine sparks of Light, called the Living Soul, from the food during their single vegetarian meal each day. After consumption, confession, prayer and psalm singing, the Living Soul escaped towards the Sun and the Moon and, so they believed, into the world of Light. Catechumens lived less ascetic lives, while their main responsibility was to support the elect by bringing them food-alms for the daily ritual meal and participating in the communal gatherings with psalm singing and prayer.⁸ The differences between these two complementary lifestyles must have affected the speech patterns within the community, but is this visible in the Kellis papyri?

It is difficult to differentiate between elect and catechumens in the Kellis personal letters. Not every church official in this corpus belonged to the Manichaean church. At least some of the presbyters and deacons would have belonged to the catholic Christian church (only sometimes explicitly identified as the καθολικῆς ἐκκλησίας). In my analysis, Apa Lysimachos and the Teacher (authors of P.Kell.Copt. 30, 61 and P.Kell.Gr. 67) belonged to the elect, while others are not beyond question. Several catechumens in Kellis were in frequent contact with these two elect. These interactions of individual Kellites with their religious specialists could have had an impact on the way they identified themselves and others. This dynamic will therefore be included for further analysis of the Manichaean ‘language of faith.’

Iain Gardner, one of the editors of the Kellis papyri, has identified several stylistic elements in letters which may have functioned as identity markers, such as ‘the naming of the Father as “the God of Truth”; the reference to the “Paraclete Spirit”; and the

particular elaboration of the Pauline trichotomy (soul, body, spirit).’⁹ These phrases, combined with more explicit references to Manichaean beliefs and elusive Christian idiom that nevertheless corresponds to Manichaean liturgical texts, will be considered as ‘Manichaean repertoire’ for the purpose of this paper.¹⁰ This repertoire is the collective of all linguistic expressions that connoted Manichaeanness in the Kellis letters. The variation in usage of this Manichaean repertoire will be discussed below in relation to the various network positions of ancient Kellites because it points to specific occasions that asked for a Manichaean identification.

The intrapersonal and interpersonal variation in repertoire is easy to observe in the Kellis letters, but has never been fruitfully examined as the result of individual and situational choices. It may be easy to understand why Manichaeans in general referred to the ‘Light Mind,’ but why did Makarios, one of the main protagonists of the corpus, address his relatives as ‘the children of the living race, the fruit of the flourishing tree and the blossoms of love’ (P.Kell.Copt. 22.5–6), while he used more mundane phrases in other letters (P.Kell.Copt. 21)? The following case study will illustrate how a social network approach could contribute to the study of situational differences which may have led to the choice of a different repertoire.

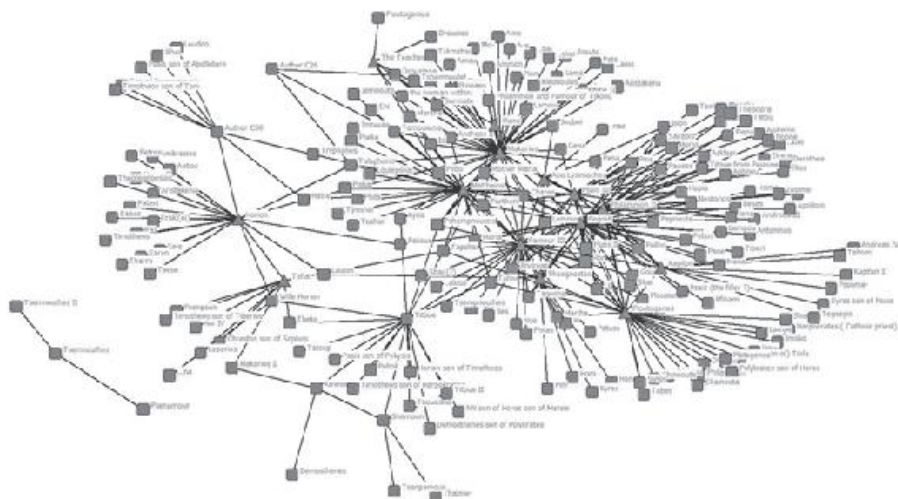


Figure 7.1. Visualisation of all individuals mentioned in the letters of fourteen authors, who themselves are represented by a triangle. Individuals are only connected to the author(s) and not to all others mentioned in the same letter. All visualisations in this chapter are made in UCINET and Netdraw.

1) Social network approaches are particularly suited to study

individuals

First, networks can be considered as predecessors of more formalised religious groups. In a network analysis, individuals with their relations and interactions can easily be taken as the basic units of analysis.¹¹ This is a considerable advantage since the perspective of coherent groups and group identity has been criticised recently by Eric Rebillard as running the risk of ‘uncritically adopt[ing] categories of religious practice as our categories of social analysis.’¹² Christian and Manichaean authoritative texts tend to construct their identities ‘as that of an internally homogeneous and externally bounded group.’¹³ However, instead of treating sharply defined groups as the basic facts in socio-historical research, individuals and their effort to create and evoke the assumption of a group should be studied.

This call for the centrality of individuals is consistent with the current trend to focus on ‘lived religion’ and Bernard Lahire’s sociology of the individual as the ‘bearer of heterogeneous habits, schemes, or dispositions which may be contrary or even contradictory to one another.’¹⁴ Religious identity markers, from this perspective, belong to the rhetorical tools available to individuals to frame situations in a particular way and define the reception of their self-identification. They pertain to ‘processes through which categories are used by individuals to make sense of the social world.’¹⁵ Social network analysis is particularly suited to study these individuals, as indicated by the many studies taking this approach to prosopographical data. Patterned interactions between individuals, represented by nodes and ties, constitutes the foundation of religious groups in which the narrative about a shared identity is more formalised and functions as a constraint on social interactions. The detailed study of practices, identifications or Lahire’s ‘dispositions’ within social interactions, illustrates emerging social or religious groups in which a separate group-identity and regulations come into being.

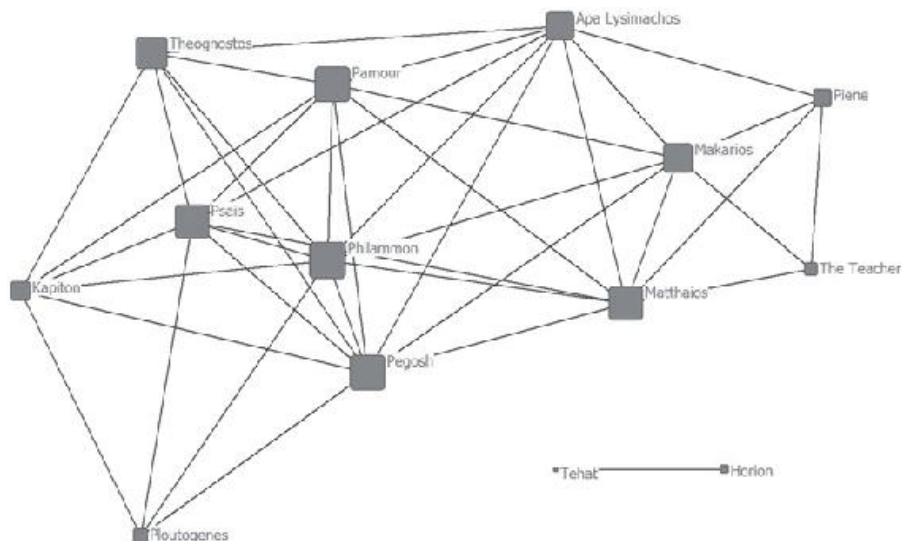


Figure 7.2. Visualisation of the selected author-network with size of the nodes indicating their NSS. The larger nodes represent well-connected individuals.

To illustrate the applicability of social network analysis within this theoretical framework, I have examined the network positions of fourteen authors, whose largely contemporary letters have been found in houses 1–3 in Kellis, from where most of the Manichaean documents derived. Their letters provide us with a large number of names, even though it is only a small portion of the entire corpus. This limited selection of names and relations is visualised in Figure 7.1. While it shows many connections, it simultaneously reveals an urgent question about the meaning and content of such connections. Would it be proper to assume, and therefore visualise, a connection between all the individual people mentioned in one letter? Is the Teacher connected to Charis or Kleoboule by the sheer fact that their names co-occur in Makarios' letter to his wife (P.Kell.Copt. 20)? Although there are good reasons for affiliation networks, such as identifying contemporary villagers, I consider the assumption of connectivity unwarranted for detailed analysis in this case study. Although Charis may have known the Teacher, either by name or by reputation, the available evidence indicates only an indirect link via Makarios. For the sake of intelligibility and to facilitate a linguistic analysis in the next section, I will continue with a simplification of this network section, excluding the ties to non-authors.

As a next step in the application of a social network analysis, a Network Strength Scale (NSS) is established for the fourteen selected

authors. This NSS is a heuristic indication of relative network positions, based on the pivotal work of the sociolinguist Lesley Milroy.¹⁶ Sociolinguists have used this scale to indicate positions of potential linguistic innovators within a network. The indications of network positions in the Kellis documents are derived from the number of attested ties, added to the average multiplicity per tie, which was established by a detailed analysis of kinship relations, work ties, religious ties, evidence for travelling together or, as an exceptional category, a shared village identity. These calculations produce a number indicating the strength of each person in his network position. Nodes with a high total strength score are more central and well-connected than the peripheral nodes with lower scores.¹⁷ The visualisation of this section of the network ([Figure 7.2](#)), which represents sixty letters, shows how well-connected the fourteen authors are with each other.

What can be learned from this network analysis and visualisation? First, it shows a number of highly interrelated nodes. Even though only fourteen authors are included, most of the nodes are strongly connected, sometimes even through strong multiple ties, which indicates strong relationships between individuals. The NSS of Makarios, Matthaïos and Piene shows the density of a fourth-century family, sharing not only kinship ties but also religious affiliation, work and long distance travel. Similar strong ties are attested between Pamour and his brothers, Pegosh and Psais, who worked closely together with Philammon, Theognostos and Kapiton. The latter was a brother-in-law who left his wife, Pegosh's sister, running away to the Nile valley (P.Kell.Gr. 76), which explains his low NSS and peripheral network position. Theognostos, also known as Louishai (and variations), is probably another brother-in-law.¹⁸ Second, peripheral positions were taken by Tehat and Horion, whose correspondence referred to none of the other twelve authors, although they did refer to people known to the other authors. Including the non-authors in the network visualisation would therefore integrate them into this section of the network, although less strongly connected. Slightly less peripheral are Apa Lysimachos and the Teacher, two of the elect, who had ties to several people in the community although they lived and worked in the Nile valley. [Figure 7.2](#) shows at a single glance the difference between Apa Lysimachos, who was connected to a number of other authors in Kellis, and the Teacher, who was the almost exclusive contact of Makarios and his sons.

In sum, applying social network analysis to a small archive like

the Manichaean letters from Kellis necessarily includes a detailed analysis of individual positions and relationships. The insights from these initial steps in social network analysis have resulted in a differentiated picture of the Manichaean community. As a group, the Manichaeans in Kellis consisted of several densely-connected circles of relatives who interacted primarily with each other, although the greeting sections of their letters reveal the broader village network. Such re-discovery of previously known factors, albeit arrived at by alternative methods, is only interesting if particular individuals appear to have held significant positions. The consequences of reconstructed central or peripheral positions within this network will be laid out in the next section.

2) Social network analysis facilitates the study of group dynamics and practices as flow

Social network analysis not only stimulates a focus on individuals and their interactions but allows for the evaluation of specific hypotheses about group dynamics and new practices as innovation flows within this network of overlapping interactions. This approach will be demonstrated in this section with the hypothesis of the elect as innovators of a Manichaean repertoire.

Sociolinguists have further developed a social network approach based on the calculation of a Network Strength Score to measure the impact of network positions on linguistic variation and adapted it for historical sources.¹⁹ Their approach, measuring linguistic variation as a dynamic practice or flow within network sections, may facilitate the study of religious identity markers. This is warranted by two theoretical assumptions: firstly, the transition from expressed identities to situational identifications through language; secondly, the freedom of linguistic choice which is never unaffected by social conventions and local linguistic norms. The impact of linguistic norms or the access of the individual to innovative repertoires of ideas and practices depends on their network position, locating them on Rogers's scale of innovation between innovators and laggards.²⁰ Successful innovation, like the diffusion of religious ideas or an increasing number of people considering the world in Manichaean terms, is only achieved when early adopters take over the ideas of innovators and use them within their cluster of relations. People tend to copy the behaviour of early adopters because of their influential network positions with strong relations to many people in the group, whereas

innovators have weaker connections to various social networks, which makes them vulnerable or open to new information.²¹ For the maintenance of these ideas and practices, early adopters have to reach an early majority, which may result in a critical balance that will sustain these ideas even over generations and in the face of misfortune.²² Once linguistic variation is embedded in strong multiplex networks, it is more likely to remain in use, while particular linguistic practices in loose-knit networks show greater linguistic flexibility, more diversity and less inclination to standardisation.²³ The standardisation of a particular Manichaean repertoire would, for that reason, suggest a more strongly crystallised group identity which was deemed salient in multiple situations.

Following this approach, the identification of innovators or early adopters of a Manichaean repertoire in the Kellis documents provides insight into the internal dynamics of this religious movement. Particularly salient is the differentiation in speech patterns between the elect and catechumens.

Manichaean elect had an authoritative position, preached the Manichaean message and had to be supported by networks of catechumens (or hearers) for their everyday needs. Apart from two letters (P.Kell.Copt. 31 and 32) by anonymous elect, I have identified two members of the elect in this section of the Kellis archive: Apa Lysimachos and the Teacher. Apa Lysimachos is frequently mentioned in the Makarios letters, since both Piene and Matthaïos travelled with him. The Teacher held a more elusive position, according to Iain Gardner, as the ‘foremost Manichaean leader in Egypt at the time.’²⁴ Both of these figures scored a relatively low NSS, even though Apa Lysimachos was connected to more people. This means that their network position and authoritative status could facilitate a role as innovators, dispatching a new type of vocabulary and a new way of speaking to the close-knit clusters around them. As Jason Beduhn pointed out in his discussion of Augustine and Faustus, the leaders ‘were able to influence others and to make their own idiosyncrasies a paradigm for others’ without assuming that they represented the only stable core of the ‘ever-shifting collective definition of what the religion represents and stands for in people’s lives.’²⁵ The elect, who had the primary responsibility of spreading the Manichaean faith and were highly knowledgeable and trained in the Manichaean scriptures, met all the requirements to have fulfilled the role of innovators, whose repertoire and style was imitated by their lay supporters in the oasis.

The process of imitation and the development of a Manichaean

epistolary style has been reconstructed by Iain Gardner by closely inspecting the style and vocabulary of the so-called ‘letter of the Teacher’ (P.Kell.Copt. 61). He concludes that ‘Mani’s own *Epistles* acted as something of a model which was mediated down through conscious imitation by members of the hierarchy; and, of course, they were treasured and copied throughout the community.’²⁶ The letter of the Teacher contains reference to the theme ‘every time I am far, I am near’ and uses polite Manichaean phrases like the ‘gentleness of your sonship’ and ‘the strength of your faith.’ Lay Manichaeans in Kellis employed similar phrases, as shown by Makarios’ use of the theme of ‘being far and near,’ which he attributes to the Paraclete: ‘the disciple of righteousness is found with the fear of his teacher upon him (even) while he is far from him; like (a?) guardian.’²⁷ Several lines further down, Makarios returns to this theme, stressing that his son should be zealous ‘whether I am far from you or near to you.’²⁸ Apparently he felt he had to make his presence felt through his letter. The fact that both Makarios and the Teacher use this theme makes it probable that such a saying of Mani indeed featured in one of the canonical books. Apart from its canonical meaning, the Kellis documents show how it was employed by elect to remind supporters of their obligation to remember the travelling elect with their gifts, even if they were far away: ‘[Whether] we are far or [we are near]: indeed we have found remembrance among [you].’²⁹ Further support for the circulation of this saying is found in several other documentary letters, like Ploutogenes’ assurance that he will remember his brothers, even ‘though they are far from me in the body yet they are near in the state of never changing love.’³⁰ There is ample reason to consider whether this Manichaean repertoire trickled down from the elect in the everyday writing of catechumens. How is the adoption of these phrases situated in their social network?

To measure the exposure and the influence of network positions, [Table 7.1](#) the number of phrases from the Manichaean repertoire in the letters of the fourteen authors examined above. The result, also visualised in [Figure 7.3](#), refers to the absolute number of phrases from a Manichaean repertoire and a normalised number expressing the number of items per 100 words. The fragmentary nature of the sources and the low number of words for each author (but in particular for the elect) hampers further statistical analysis. The exceptional high score of Apa Lysimachos and the Teacher, for example, is built upon extant remains of letters of between 70 and 80 words each.

Table 7.1. Linguistic variation based on the number of items of Manichaean repertoire employed by the authors and normalised per 100 words.

<i>Name</i>	<i>No. of Items</i>	<i>Normalised</i>
Makarios	30	1.71
Matthaïos	14	1.88
Apa Lysimachos	6	3.9
Piene	7	6.0
The Teacher	6	7.79
Tehat	3	0.65
Pegosh	19	1.20
Theognostos	3	1.33
Horion	26	3.5
Kapiton	2	0.9
Philammon	10	1.45
Pamour	28	1.7
Psais	16	2.1
Ploutogenes	13	2.9

The visualisation of linguistic variation in [Figure 7.3](#) shows a clear pattern in which the elect, Apa Lysimachos and the Teacher, seem to employ the densest Manichaean repertoire. Following closely is Piene, who could be considered one of the early adopters, since the Teacher actively trained him in liturgical duties. Horion and Ploutogenes employed a relatively large number of Manichaean phrases, while the clusters surrounding Makarios or Pamour all utilise a relatively stable level of Manichaean phraseology. This outcome corresponds to the widely attested sociolinguistic pattern of standardised repertoire. Language-usage in close-knit communities tends to converge to other community members in linguistic variation, while loosely connected members are more exposed to linguistic innovation of outsiders. It is most probable that Makarios, Pamour, Psais and their relatives constituted such a linguistic community that slowly adopted the more explicit repertoire of the Manichaean elect.

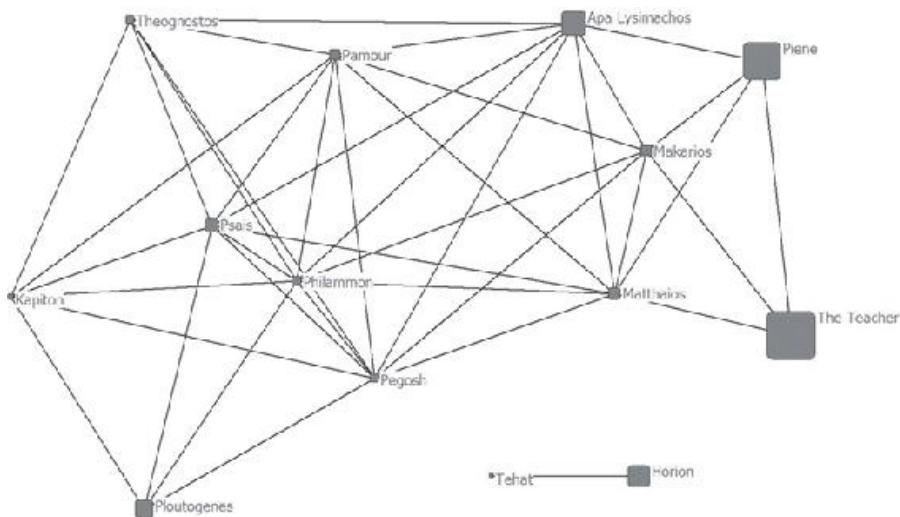


Figure 7.3. Visualisation of the level of Manichaean repertoire of the selected authors. Size of the nodes indicates high/low linguistic variation (normalised).

Questions arise if we take one step back and reflect upon the actual number of words and phrases (see Table 7.1) behind this pattern. The size and content of the letters of Apa Lysimachos and the Teacher make it difficult to accept the level of linguistic variation. When normalised per 100 words, the Teacher and Apa Lysimachos continue to score high on the Manichaean repertoire, but how much can this score be generalised without the full body of their letters? On the one hand, the letters of the anonymous elect suggest a dense Manichaean repertoire in the entire body of the letter, while on the other hand the letters of Apa Lysimachos never employed explicit Manichaean phrases. If they were not firmly connected to well-attested ‘Manichaean’ names, the letters of Apa Lysimachos could have been interpreted as those of a Christian ascetic.³¹ The most explicit reference in one of his (fragmentary) letters is to the children ‘who are among [our?] race,’ probably indicating the Manichaean self-designation, the Living Race.³² Other, anonymous, elect chose to employ a much wider range of Manichaean expressions, which unfortunately cannot be included in the visual representation of our network. As a category, the letters of the elect, including two letters by Apa Lysimachos, one by the Teacher and two anonymous, were the densest Manichaean letters, but the letters of Apa Lysimachos and the Teacher do not offer enough information individually to support the hypothesis of elect as innovators of Manichaean speech.

The second element in the hypothesis about the flow of

information from the elect to the catechumens is the role of people who travelled with the elect. Their network position could easily have led to a role as early adopters, but is this visible in the sociolinguistic analysis? Piene, the boy who travelled with the Teacher, received a high score in usage of the Manichaean repertoire. The narrative elements of his letter relate to his journey with the Teacher, during which he stayed with Apa Lysimachos and learned how to read in church (P.Kell.Copt. 19). These events could have transformed his view on the world and shaped his Manichaean vocabulary. Based on the NSS, Piene could have been a *hyperconverger* who over-accommodated his speech to the linguistic patterns of the elect.³³ Nevertheless, the actual number of words in his letter (P.Kell.Copt. 29) is still too small to generalise about his role as an early adopter. More importantly, other people whose direct ties to the elect are attested, like Philammon and Theognostos, do not employ a fundamentally different repertoire from their next of kin. There is no strong indication of the influence of the Manichaean repertoire or the epistolary style of the Elect on their letters.

In sum, the analysis of the letters by various authors in the Kellis archive shows a remarkable variation in usage of the Manichaean repertoire. When normalised in relation to the number of words in the letters, the elect score high, just like several people who worked on the fringes of the Manichaean network of Kellis. Matthaïos and Piene probably spent long times with the elect, which may have been where and when they learned to express themselves in this repertoire. The letters of Apa Lysimachos and the Teacher, however, are too fragmentary to establish direct connections and do not employ the most explicit Manichaean phrases. Moreover, close associates of Apa Lysimachos like Philammon and Theognostos adhered to general speech patterns in their network section, while Pamour, Pegosh and Makarios utilised a dense Manichaean repertoire. In conclusion, a quantitative approach to the density of Manichaean repertoire fails to support convincingly the hypothesis. The elect may well have been the source of speech innovation but this network analysis did not demonstrate irrefutably the flow of innovation between elect and catechumens.

The negative outcome of a correlation between closeness to the elect and the usage of a dense Manichaean repertoire should not come as a surprise; it is hardly conceivable that linguistic variation depended on one variable alone. As a case study, it illustrates one of the weaknesses of social network analysis in a fragmentary and small

corpus: there may not always be enough material to verify or falsify a specific hypothesis. The advantage of a dynamic network perspective on intra-group variation of so-called group-specific practices (including linguistic variation), however, remains considerable. The next section will highlight what this might look like within situational interactions.

Linguistic variation embedded within situational interactions

A third strength of social network analysis is the way it contributes to the embeddedness of linguistic variation within situational interactions. Religious phrases or identity markers occur not only in the linguistic context of a letter but also within complex overlapping situations.

To approach the impact of situations on the participants, the framework of ‘situations’ within ‘network domains’ by Mische and White could be helpful. For them, a situation ‘involves predictable, stylized interaction that suddenly becomes fraught with uncertainty, danger and/or opportunity.’³⁴ The predictable nature of the previous moment depended primarily on the array of routinised stories, symbols and idioms of such network domains as family or business.³⁵ Documentary letters are both the means and the result of particular situations or network domains. Some letters simply belong to an ongoing correspondence concerning mundane practicalities, while other letters (or sections of letters) aim at very particular goals.

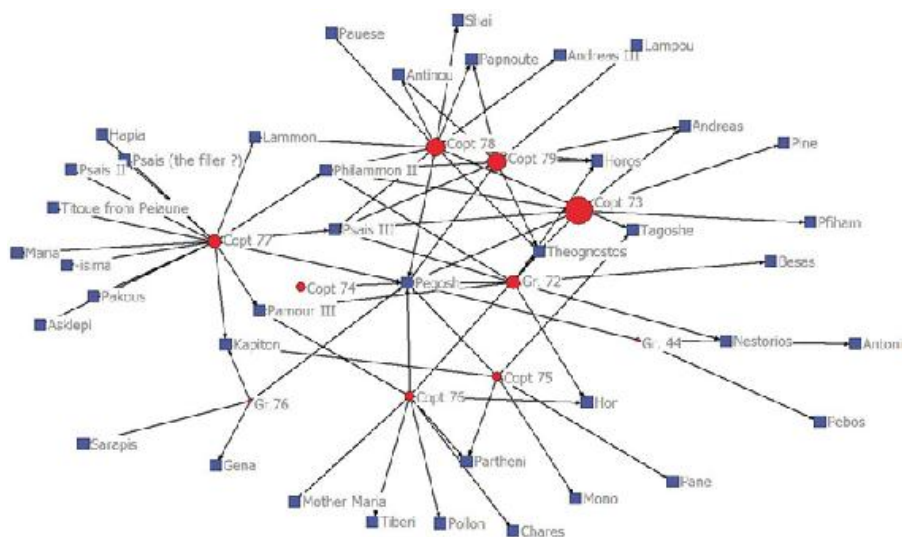


Figure 7.4. A two-mode network of Pegosh and his letters, with the size of the node indicating the level of Manichaean repertoire.

The most visible situations asking for Manichaean repertoire were letters of fundraising (e.g. P.Kell.Copt. 31). Visualised in a two-mode ego-network of Pegosh (see [Figure 7.4](#), depicting the connections between the author, his letters and the individuals named in these letters), another type of situation stands out. Explicit Christian or Manichaean repertoire is almost never employed in Greek administrative or legal documents. Amongst Pegosh's letters, the Greek loan of money (P.Kell.Gr. 44) to Aurelius Antoninus shows no trace of a Manichaean identification. Although the document was found among the other papyri, its genre belongs to another world in which identification eschewed religious terms.³⁶ The Greek letter from Pegosh to Sarapis (P.Kell.Gr. 76) conforms to this pattern, since only the legal consequences of Kapiton's tax debt are discussed. Nothing in this letter indicates Manichaeanness and even the kinship terminology used for Sarapis probably belonged to polite speech.³⁷ The absence of Manichaean phrases could be due to the conventions of the genre, but may also be related to the legal status of Manichaeans in the Roman empire.³⁸ If the occasional references to persecution in the Kellis letters reflect the contemporary Egyptian social reality, legal and administrative interactions may have constituted uncertain 'situations' in Mische and White's sense, instead of belonging to a conventional unmarked choice. Future research into persecution as a Manichaean conventional trope and the consequences of the presence of the Roman administration in the oasis for Manichaeans will show to what extent Manichaeans had to conceal their religious affiliation and controlled their linguistic variation accordingly.

The most salient situational interactions requiring explicit Manichaean phrases were letters with requests for material support. The two letters of anonymous elect used Manichaean repertoire to frame the relation in a father-daughter structure in which the catechumens had the religious responsibility to care for their 'fathers.' Before expressing his request for two *choes* of oil, the anonymous father stated:

I am praying to God every hour that he will guard you for a long time, free from anything evil of the wicked world. You being for us helpers, and worthy patrons, and firm unbending pillars; while we ourselves rely upon you. (P.Kell.Copt. 31.12–19).

The redefinition of the recipient's identity as 'members of the holy church,' 'daughters of the Light Mind' and 'children of God' framed the request in a Manichaean worldview with its characteristic division of labour. Through the use of explicit Manichaean self-designators, the

elect minimised the uncertainty contained in his request and strove for a positive reaction. In a similar way, the elect writing to Eirene conflated his request for her to ‘mix the warp’ (probably to produce garments for him) with an elaboration on the New Testament order to lay the foundation of your house carefully (P.Kell.Copt. 32).³⁹ These allusions to scripture were usually confined to liturgical and theological texts and finding them appropriated in letters of requests indicates the exceptional salience of a religious identification in the particular situation.

Conclusion

By analysing sections of the social network of Late Antique Kellites, I have demonstrated several strengths of social network analysis. This case study cannot do justice to the complexity of the source material or to the diversity of network theories. Instead I have demonstrated some approaches that may be pursued in the study of religious identity markers in ancient papyri. Social network analysis has the advantage of inclining towards individuals instead of groups, which serves the current interest in lived religion; it facilitates the study of group dynamics as flows, leading to questions about innovation, agency and structural availability; it also embeds linguistic variation in a relational and situational context, leading to an understanding of speech patterns as belonging to the stories and narratives that accompanied ties in specific network domains.⁴⁰ Far from being a computerised methodological approach only, social network approaches can be combined fruitfully with historical hermeneutical analysis. The visualisations, moreover, play an important role in presenting the outcome of such analysis, enabling us to comprehend complex and overlapping social relations.

Apart from praise, a number of points of critique emerged. Most importantly, the case study shows how a limited number of words or letters may affect the outcome of a statistical analysis. It has proved problematic to measure the influence of the elect on those who travelled with them, because of the fragmentary state of their letters. As in all quantitative approaches to historical material, the absence of evidence is an item to reckon with. This is in particular relevant for studies of affiliation networks, which include the – sometimes unwarranted – assumption that all the people mentioned in a documentary letter would have known each other. The common attestation of names might not be the most reliable indication of

connectivity and needs to be supplemented by detailed historical analysis in order to prevent fundamental distortions. Moreover, the number and types of variables affecting linguistic choices exceeds the limits of visualisation. Not all external and internal influences can be visualised and the interaction between those factors is not necessarily always best served by this type of social network analysis.

With this overview of the strengths and weaknesses of social network analysis as a strategy to approach religious identifications, we can return to the Manichaeans in Kellis. Their use of Manichaean phrases and terminology has made it possible to relate the everyday interactions of Egyptian villagers to the development of a religious group in Late Antiquity.

Most fundamentally, these documents call into question the salience of a Manichaean identity for most of the affiliated individuals. The variation in speech patterns between the individuals and the relatively low number of explicit phrases in documentary letters suggests that it was only occasionally necessary to approach a situation in an explicit Manichaean framework. Most situations were described and approached in the same mundane vocabulary as used by their neighbours. Following Eric Rebillard and his redescription of the many identities of Christians in North Africa, I wonder whether modern research has not focused too much on the Christian and Manichaean leaders (or apostates) who presented religion as *the* defining identity for everyday behaviour and language.⁴¹ In contrast to the totalising discourse of literary authors, religious identifications and in-group language were only occasionally salient in the papyri. It shows how some phrases used as ‘identity markers’ derived from a common repertoire shared by Christians and Manichaeans alike. There is no reason to assume that Kellis villagers perceived their society and their neighbours exclusively in terms of religious membership. The multiplicity of their overlapping social relations attests to a more dynamic context with multiple identities embedded in the interactions of a Late Antique social network.

Notes

- * Earlier versions of this paper were presented at the Leiden conference on ‘Papyri and Social Networks’ and at the conference in Athens, ‘Sinews of empire: Networks and regional interaction in the Roman Near East’, organized by the University of Bergen. The research behind this paper is part of the NWO (Netherlands Organization for Scientific Research) funded project, ‘Manichaeans and others in fourth-century Egypt: The mechanisms of

religious change in Late Antiquity'. I am grateful to the participants of both conferences and my Leiden University colleagues for their feedback.

1 The most recent introduction is N. J. Baker-Brian, *Manichaeism. An Ancient Faith Rediscovered* (London: T&T Clark, 2011). The Kephalaia chapter is translated in I. Gardner and S. N. C. Lieu, *Manichaean Texts from the Roman Empire* (Cambridge: Cambridge University Press, 2004), no. 91. Abbreviations for editions of papyri follow J. F. Oates, R. S. Bagnall, S. J. Clackson, A. A. O'Brien, J. D. Sosin, T. G. Wilfong, and K. A. Worp, "Checklist of Editions," in *Checklist of Editions of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets*, December 2015, <http://scriptorium.lib.duke.edu/papyrus/texts/clist.html>.

2 The liturgical documents and the personal letters are published in I. Gardner, ed., *Kellis Literary Texts. Volume 1* (Oxford: Oxbow Books, 1996); I. Gardner, ed., *Kellis Literary Texts. Volume 2* (Oxford: Oxbow Books, 2007); I. Gardner, A. Alcock, and W. P. Funk, eds., *Coptic Documentary Texts from Kellis. Volume 1* (Oxford: Oxbow Books, 1999); I. Gardner, A. Alcock, and W. P. Funk, eds., *Coptic Documentary Texts from Kellis. Volume 2* (Oxford: Oxbow Books, 2014); K. A. Worp, ed., *Greek Papyri from Kellis I* (Oxford: Oxbow Books, 1995). All the translations of the Greek and Coptic papyri from Kellis in this paper derive from these editions. Further excavations are published regularly; the latest contribution is R. S. Bagnall, P. Davoli, and C. A. Hope, eds., *The Oasis Papers 6: Proceedings of the Sixth International Conference of the Dakhleh Oasis Project* (Oxford: Oxbow Books, 2013).

3 With regard to P.Har. 107 see I. Gardner, I. Nobbs, and M. Choat, "P. Harr. 107: Is This Another Greek Manichaean Letter?" *Zeitschrift für Papyrologie und Epigraphik* 131 (2000), 118–124. This interpretation was challenged by D. G. Martinez, "The Papyri and Early Christianity," in *The Oxford Handbook of Papyrology*, ed. R. S. Bagnall (Oxford: Oxford University Press, 2009), 602. A rebuttal appears in I. Gardner, "Once More on Mani's Epistles and Manichaean Letter-Writing," *Journal of Ancient Christianity* 17(2) (2013), 291–314. P.Oxy. 31.2603 was labelled 'Manichaean letter of recommendation' in A. Luijendijk, *Greetings in the Lord. Early Christians and the Oxyrhynchus Papyri* (Cambridge, MA: Harvard University Press, 2008), 115 n. 34. See also M. Choat, *Belief and Cult in Fourth-Century Papyri* (Turnhout: Brepols, 2006), 131; J. H. Harrop, "A Christian Letter of Commendation," *The Journal of Egyptian Archaeology* 48 (1962), 132–140; I. Gardner, "Personal Letters from the Manichaean Community at Kellis," in *Manicheismo E Oriente Cristiano Antico*, ed. L. Cirillo and A. van Tongerloo (Leuven: Brepols, 1997), 87.

4 T. Whitmarsh, *Greek Literature and the Roman Empire. The Politics of Imitation* (Oxford: Oxford University Press, 2001), 31, his emphasis. For the purpose of this paper I exclude discussions about the role of orality and literacy in the adoption of a particular linguistic repertoire.

5 Several studies into the multilingual world of Late Antique Egypt do address such sociolinguistic questions. Cf. S. J. Clackson, "Coptic or Greek? Bilingualism in the Papyri," in *The Multilingual Experience in Egypt from the Ptolemies to the 'Abbasids*, ed. A. Papaconstantinou (Farnham: Ashgate, 2010), 73–104. Fascinating, particularly in relation to the rise of Coptic and the Manichaean communities, is E. Zakrzewska, "L* as a Secret Language: Social Functions of Early Coptic," in *Christianity and Monasticism in Middle Egypt: Al-*

Minya and Asyut, ed. G. Gabra and H. N. Takla (Cairo: AUC Press, 2015), 185–198.

6 T. M. Luhrmann, “Metakinesis: How God Becomes Intimate in Contemporary U.S. Christianity,” *American Anthropologist* 106(3) (2004), 519.

7 Luijendijk, *Greetings in the Lord*, 30. Cf. L. H. Blumell, *Lettered Christians* (Leiden: Brill, 2012). Choat, *Belief and Cult*.

8 The ritual dynamic between elect and catechumens is the subject of J. D. BeDuhn, *The Manichaean Body: In Discipline and Ritual* (London: The Johns Hopkins University Press, 2000).

9 Gardner, “Once More on Mani’s Epistles,” 292.

10 For the purpose of measuring linguistic variation, I have included the following phrases as Manichaean repertoire. Self-designators: ‘child of righteousness,’ ‘good limb of the Light Mind,’ ‘disciple of righteousness,’ ‘children of the living race,’ ‘fruit of the flourishing tree and the blossoms of love,’ ‘members of the holy church,’ ‘daughters of the Light Mind,’ ‘children of God,’ ‘God-loving souls,’ ‘helpers,’ ‘worthy patrons,’ ‘firm unbending pillars,’ ‘daughter of the holy church,’ ‘catechumen of the faith,’ ‘good tree whose fruit never withers,’ ‘kingdom of the saints,’ ‘those of this word,’ ‘elect and catechumens,’ ‘the brotherhood,’ ‘those who give you rest,’ ‘loved one(s),’ ‘limb,’ ‘worthy member,’ and the usage of family metaphors. Titles: ‘The Teacher,’ ‘bishop,’ ‘deacon,’ ‘presbyter,’ ‘reader.’ Allusions to scriptural texts: formulas referring to the Pauline anthropology with body, soul, spirit and heart, ‘treasuries stored in the heights,’ ‘storehouses of the sun and the moon,’ and the various book titles mentioned. Supernatural beings and abstractions: ‘father God of truth,’ ‘son the Christ,’ ‘holy spirit and his light angels,’ ‘wicked world,’ ‘service of God,’ ‘evil of Satan,’ ‘adversities of Satan,’ ‘devil,’ ‘temptations of Satan,’ ‘adversities of the evil place,’ ‘great evil,’ ‘our lord the Paraclete,’ ‘Jesus Christ,’ ‘the Light Soul.’ Other: ‘persecution,’ ‘the one on whom I rely, after the Lord,’ ‘you may find life in the kingdom for eternity,’ ‘possible for God to thwart their designs,’ ‘most sincere mind in you,’ ‘fruits of the soul of the pious,’ ‘your most luminous soul,’ ‘your faith,’ ‘hard judgment,’ ‘so that we may attain life eternal,’ *agape*, ‘in the lord’ or ‘in God,’ all prayers to God for health, all instances where God is called upon as witness, ‘whose name is sweet in my mouth,’ ‘praise God,’ ‘with God’s help,’ ‘God will grant me.’ I do not suggest an explicit and exclusive Manichaean meaning for these phrases, but allow for overlapping semantic fields connoting a Christian and/or Manichaean background. The multiple meanings depend on literary and social contexts, which are hardly sufficiently expressed in this type of list. A careful approach to dual-meaning is also pursued in Choat, *Belief and Cult*, 137–139.

11 On the concept of religion in Antiquity, see B. Nongbri, *Before Religion. A History of a Modern Concept* (New Haven, CT: Yale University Press, 2013). A pivotal work on a social networks in papyri, different from the examples presented here, is G. Ruffini, *Social Networks in Byzantine Egypt* (Cambridge: Cambridge University Press, 2008).

12 E. Rebillard, *Christians and Their Many Identities in Late Antiquity, North Africa, 200–450 CE* (London: Cornell University Press, 2012), 2.

13 Ibid.

14 B. Lahire, “From the Habitus to an Individual Heritage of Dispositions.

Towards a Sociology at the Level of the Individual,” *Poetics* 31 (2003), 344 cited by Rebillard. For lived religion see M. B. McGuire, *Lived Religion* (Oxford: Oxford University Press, 2008). For ancient lived religion see J. Rüpke and R. Raja, “Appropriating Religion: Methodological Issues in Testing the ‘Lived Ancient Religion’ Approach,” *Religion in the Roman Empire* 1(1) (2015), 11–19.

15 R. Brubaker, “Ethnicity without Groups,” *Archives européennes de sociologie* 43(2) (2002), 170.

16 L. Milroy, *Language and Social Networks* (Oxford: Basil Blackwell, 1985).

17 Network Strength Scores: Pamour 10.25; Psais 10; Pegosh 10.25; Philammon 10.44; Theognostos 9.28; Kapiton 6.4; Ploutogenes 5.25; The Teacher 5; Makarios 8.71; Matthaïos 9.87; Piene 6.25; Tehat 3; Horion 4; Apa Lysimachos 8.57. All visualisations in this chapter are made in UCINET and Netdraw.

18 Gardner, Alcock, and Funk, *Coptic Documentary Texts from Kellis. Volume 2*, 135. P.Kell.Copt. 65, 80–83 and P.Kell.Gr. 67, see also I. Gardner, “P. Kellis I 67 Revisited,” *Zeitschrift für Papyrologie und Epigraphik* 159 (2007), 223–228.

19 R. C. Bax, “A Network Strength Scale for the Study of Eighteenth-Century English,” *European Journal of English Studies* 4(3) (2000), 283. A. Sairio, “Sam of Streatham Park’. A Linguistic Study of Dr. Johnson’s Membership in the Thrale Family,” *European Journal of English Studies* 9(1) (2005), 22. A. Bergs, “The Role of the Individual in Language Change from the Point of View of Social Network Analysis,” *Logos and Language* 6(1) (2005), 30–54. F. Henstra, “Social Network Analysis and the Eighteenth-Century Family Network: A Case Study of the Walpole Family,” *Transactions of the Philological Society* 106(1) (2008), 29–70.

20 E. Rogers, *Diffusions of Innovations* (New York: The Free Press, 1995 [1962]).

21 L. Milroy and J. Milroy, “Linguistic Change, Social Network and Speaker Innovation,” *Journal of Linguistics* 21 (1985), 343.

22 Ibid., 367–268.

23 Bergs, “The Role of the Individual,” 35, states ‘dense, multiplex networks often have norm-enforcing effects on network members’.

24 Gardner, Alcock, and Funk, *Coptic Documentary Texts from Kellis. Volume 1*, 75. I. Gardner, “A Letter from the Teacher: Some Comments on Letter-Writing and the Manichaean Community of IVth Century Egypt,” in *Coptica – Gnostica – Manichaica: Mélanges offerts à Wolf-Peter Funk*, ed. L. Painchaud and P. H. Poirier (Québec: Presses de l’Université Laval, 2006), 317–323. Gardner, Alcock, and Funk, *Coptic Documentary Texts from Kellis. Volume 2*, 30–33.

25 J. D. BeDuhn, “Am I a Christian? The Individual at the Manichaean-Christian Interface,” in *Group Identity and Religious Individuality in Late Antiquity*, ed. J. Rüpke and E. Rebillard (Washington DC: The Catholic University of America Press, 2015), 33.

26 Gardner, “A Letter from the Teacher,” 322. A similar argument is made in the more recent Gardner, “Once More on Mani’s Epistles.”

27 P.Kell.Copt. 19.9–10. For these observations about far-near, see Gardner, “A Letter from the Teacher,” 321–322.

28 P.Kell.Copt. 19.69–70.

29 P.Kell.Copt. 31.24.

- 30 P.Kell.Copt. 85; see also P.Kell.Copt. 15.12, 17.5, 19.5, 26.11, 31.24, 61.6–7, 63 (?), 72.10.
- 31 P.Kell.Copt. 30 and P.Kell.Gr. 67 contain no ‘explicit’ Manichaean phrases, but include kinship terminology and employ formulae like ‘greetings in God’ and prayers to God, and refer to a bishop and a lector, all of which are included in the list in note 10.
- 32 P.Kell.Copt. 30.5. Cf. in P.Kell.Copt. 22.5.
- 33 H. Giles, J. Coupland, and N. Coupland, “Accommodation Theory: Communication, Context, and Consequence,” in *Contexts of Accommodation. Developments in Applied Sociolinguistics*, ed. H. Giles, J. Coupland, and N. Coupland (Cambridge: Cambridge University Press, 1991), 17, on the possibility of over-accommodation and the role of prototypes in speech accommodation.
- 34 A. Mische and H. C. White, “Between Conversation and Situation: Public Switching Dynamics across Network Domains,” *Social Research* 65(3) (1998), 698.
- 35 Ibid., 702.
- 36 With the exception of indicators of social status, like the occupation of priest. P.Kell.Gr. 13 includes a priest from the temple of Tutu, and P.Kell.Gr. 24.3, 32, 48.20, 58.8 mention priests of the ‘Catholic church.’ See also Choat, *Belief and Cult*, 64, on cult officials named in papyri, serving as witnesses.
- 37 For this letter see Worp, *Greek Papyri from Kellis I*, 197–199.
- 38 On which see P. Beskow, “The Theodosian Laws against Manichaeism,” in *Manichaean Studies. Proceedings of the First International Conference on Manichaeism*, ed. P. Bryder (Lund: Plus Ultra, 1988), 1–11.
- 39 For other Manichaean sources, see Gardner, “Once More on Mani’s Epistles,” 302.
- 40 Mische and White, “Between Conversation and Situation,” 703. See also M. R. Somers, “The Narrative Constitution of Identity: A Relational and Network Approach,” *Theory and Society* 23 (1994), 605–649.
- 41 Rebillard, *Christians and Their Many Identities*, 92–97.

8. Networking beyond death: Priests and their family networks in Palmyra explored through the funerary sculpture

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Abstract: *Palmyrene funerary portraiture is the largest group of portraiture from the Roman period outside of Rome. The Palmyra Portrait Project has collected more than portraits in the most comprehensive corpus of them in existence. This number far exceeds any earlier estimation. Through this corpus, it is now for the first time possible to explore in a comprehensive manner aspects of Palmyrene family constellations in funerary contexts. In this paper, the focus will be on family constellations as expressed in particular in the funerary sculpture which includes the depiction of Palmyrene priests in order to analyse these as a case study group. The study aims to determine which family networks were important to communicate within Palmyrene society and what that might tell us about the structure of Palmyrene society and the meaning of priesthood beyond a purely religious setting.*

Keywords: Palmyrene priests, social structure, funerary sculpture, family networks

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Introduction

The importance of Palmyra, the oasis city in the Syrian Desert, cannot

be overestimated for understanding the ways in which networks operated in the Roman Empire.¹ The city played an important role in the trade relations and routes between East and West in the first three centuries AD and the city flourished in these centuries.² However, not only does the city provide splendid archaeological and epigraphic evidence testifying to the importance of the city within the Roman Empire in the first three centuries AD and its relations to the surrounding world, but it also provides evidence for relations within families as they were depicted in death. This evidence is constituted by the largest group of portrait sculpture from the Roman period outside Rome, namely the Palmyrene funerary portraits.³ These portraits, which were set up in the graves of Palmyra and of which more than 3,000 are preserved, exist in various constellations. They allow a unique insight into the world of the Palmyrene family, as the portraits represented the Palmyrene elite and the constellations which at various points in time were preferred to display ideal family scenes.⁴ Not only does the sheer size of the corpus of Palmyrene funerary portraiture give immense possibilities for exploring aspects of self-representation and identity, but it also allows for enquiries into the ‘comprised’ family constellations and therefore ‘closed’ or restricted networks, which obviously were so relevant for the Palmyrenes to depict. From the literary and epigraphic evidence, we know that Palmyrene society was constructed around a number of extended families.⁵ These families were the core anchors of Palmyrene society and the social structure of the city was based around them. Therefore, the family was an important part of displaying Palmyrene identity and genealogies in the funerary sculpture underline that explicitly stating one’s roots – often going several generations – was an important feature.

While most research on Palmyrene networks has focused on networks extending towards the world outside Palmyra, little research has been done on the Palmyrene networks within the city.⁶ This, on the one hand, is due to the nature of the epigraphic evidence, which remains enigmatic about the way in which religious and social relations within Palmyrene society were organised.⁷ On the other hand, it is due to the fact that until recently no comprehensive corpus existed of the Palmyrene funerary sculpture, which in fact is the richest source of representations of family networks in Palmyra in the Roman period.⁸ In this article the representations of priests and their family networks as they were depicted will be the focus. Since this group of representations is a distinct group within Palmyrene funerary

sculpture, it gives good insight into the variety of representations of family constellations that were available, but also places focus on the choices made within this specific group of representations.⁹ Drawing upon the extensive visual evidence from the Palmyra Portrait Project database, it has been possible to draw up a clear picture of the idealised – we may assume – family constellations, which were prevalent at various points in time from the first century AD to the late third century AD.¹⁰ These idealised constellations, showing excerpts of families (husband and wife; parents and children; siblings; uncles, aunts and nephews etc.) expressed on the one hand close family relations (family networks) and on the other hand also a family's importance within the larger network of extended families which stood at the core of Palmyra's society. Such extended networks were underlined in the inscriptions which often accompanied the funerary representations and which can list a family's genealogy sometimes as far back in time as five generations. Whereas extended family genealogy and network held an important role in the epigraphy displayed on the funerary representations, the closer network within the immediate family was the emphasis of the representations themselves.

Palmyrene funerary sculpture

Palmyrene funerary portraits stem from the period between the first century AD and the late third century AD when Palmyra was sacked by the Romans under Emperor Aurelian in AD 272 and the production of the portraiture came to an end as grave monuments stopped being built and maintained.¹¹ Apart from being the largest corpus of portraits from outside of Rome, about 3% of the total number of portraits provide us with inscriptions, which date the inscribed portraits precisely. Although 3% does not sound like much, it has in fact given scholars the unique possibility to develop a tight stylistic chronology of the development of the portraiture, for which the ground was laid by Harald Ingholt in his 1928 publication *Studier over Palmyrensk Skulptur*.¹² Through the extensive database compiled within the Palmyra Portrait Project based at Aarhus University, it is now for the first time possible to give a statistical overview of how the Palmyrene funerary portraiture and the various group constellations within this large corpus in fact grouped together.¹³

The Palmyrene funerary portraiture came into existence during a period in which Palmyrene society came into close contact with the

Roman world and Roman traditions.¹⁴ The introduction of the use of funerary portraiture can be traced to knowledge about Roman portraiture from the same period.¹⁵ Despite being a partly imported mode of representation, however, Palmyrene funerary portraits were carefully adapted to the local circumstances and cannot be said to be provincial portraiture. The *loculus* reliefs, which make up the largest group within the funerary portraiture, were set up in the tower tombs and the *hypogea* as well as in the less-often encountered temple or house tombs.¹⁶ These *loculus* reliefs, made of locally quarried limestone, covered the *loculus* in which the mummified bodies were buried. The bust of the deceased was depicted on the *loculus* slab, but the bust was not solely a bust depiction as we know them from Roman period portraiture of deceased freedmen, for example.¹⁷ Most Palmyrene funerary busts were in fact depictions of the individual to the breast or just above the navel, extending the parts of the body shown beyond a pure bust format. Such depictions gave the possibility of bringing more attributes into play in the representations, such as the arms and hands and what could be carried on arms and in hands, as well as clothing worn around the waist, such as elaborate belts and the like.

The two main groups within the funerary sculpture: *loculus* reliefs and sarcophagi

The database compiled within the framework of the Palmyra Portrait Project does not only include the funerary portraiture, but all known portraiture from Palmyra.¹⁸ Concerning the funerary portraiture, the database at present holds 1,478 male funerary portraits. Of these 289 are funerary portraits depicting male Palmyrene priests ([Table 8.1](#)).¹⁹ There are 986 funerary portraits of women and 287 funerary portraits of children.²⁰ Several of these portraits occur on shared objects (*loculus* reliefs and sarcophagi) in constellations with each other. The sarcophagi were introduced in the second century AD and afforded the possibility to show more elaborate family scenes than the smaller *loculus* reliefs. Certainly sarcophagi must have been more expensive to produce and the production of *loculus* reliefs continued alongside them. Often these constellations are accompanied by inscriptions, which inform us about the relationship between the individuals depicted on the objects.²¹ Most often we have depictions of family members, making Palmyrene funerary sculptures the largest group of sculpture that tell us about family constellations and family networks

in the ancient world.

One of course may argue that the family constellations show constructed (idealised) and comprised networks within families and that it is not realistic that a woman, for example, only had the one child or two children she is often shown together with in her funerary relief.²² However, exactly the fact that the constellations are constructed make them important sources to understanding family networks, since we may assume that these constellations were based on actual choices made by the individual or the individual's family. These are depictions of networks that mattered to the Palmyrenes. In the case of intra-family networks in Palmyra, it is the nature of these connections or networks which are interesting as ways of understanding family networks in Palmyra as expressed through the funerary sculpture. It is clear from the funerary representations which lines were drawn between the individuals shown on the loculus reliefs and sarcophagi. However, it is the actual intentions behind the choices made, such as who was depicted on these reliefs and sarcophagi apart from the deceased themselves, which are interesting to examine.

The main category of representations in the Palmyrene funerary sculpture is loculus reliefs. These depict either one or several persons (Fig. 8.1).²³ Within this category there are several sub-groups. Apart from the ordinary loculus reliefs showing one or more individuals in bust form (or rather to the abdomen, which is a Palmyrene speciality), there is also a category of stela motifs showing individuals alone or in constellations depicted in full figure.²⁴ These draw upon motifs from earlier times when stela were used as grave markers on graves for individuals before family graves, *hypogea*, tower tombs and temple or house tombs, became the prevailing grave monuments for Palmyrene citizens.²⁵ Furthermore, a specific group within the loculus reliefs, the so-called banqueting reliefs, can also be shown to stand out as a group of their own (Fig. 8.2).²⁶ These often lend their motifs to the elaborate family banqueting scenes shown on many sarcophagi from Palmyra.²⁷ However, they may also simply show a comprised image of such a banqueting scene, depicting a man or more seldom a woman on a *kline* (banqueting couch) accompanied by one or two standing or sitting family members or a servant.

Table 8.1. Table showing statistics of the representations of priests in Palmyrene funerary and non-funerary contexts (© Rubina Raja).

Portraits of priests

	<i>Funerary</i>	<i>Honorific</i>	<i>Religious/ Architecture</i>	<i>Total</i>
Objects with portraits	249	6	7	262
Portraits in total	286	6	17	312

	<i>Loculi</i>	<i>Stelae</i>	<i>Freestanding</i>	<i>Sarcophagi</i>	<i>Banquet reliefs</i>	<i>Heads</i>	<i>Ceiling decoration</i>	<i>Total</i>
Objects with portraits	86	2	3	48	10	99	1	249
Portraits in total	87	2	3	81	12	99	2	286

Decoration of the priestly modius

Funerary portraits:

	<i>Bust</i>	<i>Rosette</i>	<i>Round/oval stone</i>	<i>Plain</i>	<i>Only wreath</i>	<i>Unknown</i>	<i>Total</i>
Group I (1–150)	28	7	2	30	1	7	75
Group II (150–200)	42	6	20	3	0	12	83
Group III (200–273)	49	3	42	12	0	21	127
Total	119	16	64	45	1	40	286

Honorific and religious portraits:

	<i>Bust</i>	<i>Rosette</i>	<i>Round/oval stone</i>	<i>Plain</i>	<i>Only wreath</i>	<i>Unknown</i>	<i>Total</i>
Honorific	1	0	2	3	0	0	6
Religious/ Architecture	1	0	1	6	0	9	17
Total	2	0	3	9	0	9	23



Figure 8.1. Loculus relief depicting a man and a woman. Ny Carlsberg Glyptotek, Copenhagen I. N. 1026 (© Palmyra Portrait Project).

The other large group within the Palmyrene funerary sculpture is the sarcophagi.²⁸ On the lids of these sarcophagi, elaborate family banqueting scenes are shown and the boxes of the sarcophagi often show further family members or even scenes depicting events from the life of the deceased.²⁹ Sarcophagi were set up in the tombs along the sides of the inner walls, often in a row in front of already existing loculi, or they could be placed in niches made for the purpose. The number of sarcophagi is far lower than that of the loculus reliefs. However, the sarcophagi must also have been more expensive to produce and therefore limited to a certain level of society only. They offered ample space for depicting numerous family members both on the lid and the box. They therefore also quite literally offered space for a larger number of portraits than other groups within the Palmyrene funerary sculpture and therefore offered a way in which such portraits could be combined in various constellations on a larger scale.



Figure 8.2. *Banqueting relief depicting a priest and his wife. Ny Carlsberg Glyptotek, Copenhagen I. N. 1159 and I. N. 1160 (© Palmyra Portrait Project).*

The examples of Palmyrene priests in family constellations

Representations of Palmyrene priests in the funerary portraiture make up a distinct group of recognisable individuals depicted in various family constellations. We currently know of 289 portraits of priests in a funerary context from Palmyra.³⁰ However, despite the distinctive representations of the priests, these have not been comprehensively studied until now due to the lack of a corpus which made this possible.³¹ This contribution is a first attempt at comprehensively discussing priestly representation in family constellations. These constellations held implications for the meaning of social networks within families in Palmyra. The priestly representations have been described as being ‘relative prosaic’ and disappointing due to their ‘standard iconography,’ but now it is possible to show that representations of the priests in fact varied immensely – not least through the various constellations in which they were depicted in the funerary sculpture.³²

Palmyrene priests appear in the funerary as well as non-funerary portraiture, characterised by the so-called *modius* as well as their beardless faces and clean-shaven heads.³³ The *modius* is a round hat with a flat top, which shows signs of Hellenistic influence.³⁴ The visual evidence, including funerary portraiture, public representations and banqueting tesserae, display a wealth of evidence for Palmyrene priests. In contrast to this, the literary sources are scarce when it comes to telling us about priests and the structure of priesthoods.³⁵

Priests are depicted and explicitly labelled as priests on a few public monuments (Fig. 8.3). Therefore, it is possible through the combination of inscriptions and iconography to conclude that men shown with *modius*, clean-shaven heads and beardless faces were priests. However, not a single inscription accompanying a funerary portrait depicting a priest tells us that the person depicted was a priest.³⁶ In the case of the funerary portraits, the representations themselves, the depictions of the priestly *modius* and the signifiers of the 'trade,' such as the libation pitcher and the incense bowl with which almost all priests are depicted, stand as keys to decoding these images.³⁷ It is extremely rare for other male representations to state explicitly which profession the deceased held. Palmyrene funerary portraiture overall lacks interest in displaying the professions of deceased, which might be another indicator that in the funerary sphere an emphasis on the importance of the family was central to display over and above other characteristics of the deceased.

Seventy-five of the portraits of priests can with certainty be said to be single portrait loculus reliefs showing a representation of a Palmyrene priest without any accompanying individuals. In fact, there may be further portraits, which originally stem from loculus reliefs and may have been single portrait reliefs of priests. However, since a large group of heads, in total ninety-seven, have been cut out of their original setting, it is in several cases difficult to assert whether they originally stem from a sarcophagus (lid or box) or a loculus relief. These have been left out of the count undertaken here. However, this means that a total of 117 priests appear in constellations with other individuals.³⁸ These constellations are, in the case of the priests, always family members. Apart from the seventy-five single-loculus priestly depictions, there are four representations of priests in family constellations on loculus reliefs, eighty-four priest portraits on sarcophagi, twelve on banqueting reliefs (a sub-group of loculus reliefs), three portraits of priests stemming from sculpture in the round, two representations of priests on stelae-shaped loculus reliefs and two portraits of priests found in ceiling decoration in tombs. By far the majority of these representations do not come with an in-situ context. This certainly complicates the possibilities for assessing the broader constellations. Nonetheless, the in-situ contexts which have been documented indicate that priests shown in single-loculus reliefs were most often set in constellations where other priests from the family also occurred.³⁹

Within this large number of Palmyrene priests, it is striking that

only four loculus reliefs show priests in constellations with family members.⁴⁰ All four reliefs differ from each other in the constellations depicted. One depicts a priest and a child (Fig. 8.4), one a son shown as a priest and his mother (Fig. 8.5), one shows two priests (a father and a son) (Fig. 8.6) and the fourth depicts a father, his son depicted as a priest and a woman who may be his daughter or possibly daughter-in-law.⁴¹ There seems to be no pattern to be drawn from these four examples, which represent a small group within the priestly representations on loculus reliefs.

In comparison to loculus reliefs representing men and women alone and in constellations, there are 526 single representations of men and sixty-five loculus reliefs showing them in constellations. There are 407 loculus reliefs showing single women and 110 showing women in constellations. Statistically this means that 5% of priests depicted in loculus depictions are shown in constellations, compared with 11% of all men and approximately 21% of women who are shown in constellations. So although the group of priestly representations are smaller in general than the representations of men and women, it can still be concluded that priests were depicted in constellations together with family members on loculus reliefs less frequently than both men and women in general. There might be several reasons for this. Most prominently, it can be put forward that if, as it is supposed, Palmyrene priesthoods were hereditary and closely connected to status within Palmyrene society, it might simply not have been necessary for a priest, or have added to his status, to be shown in the company of family members in his funerary portraiture.⁴² The depiction of the priesthood itself would in this case have been enough to underline that the individual held a high status within the society and came from a family through which priesthoods were inherited. Therefore, the four examples showing priests in family constellation to an even larger degree carry meaning as expressions of social intra-family networks and parts of family networks which mattered to the individual or the individual's family. The depiction of the mother with her son, who is represented as a priest, shows the mother with a bare chest and scratch marks above her breasts – a gesture of sorrow and possibly an indication that the mother might have chosen exactly this constellation on the loculus relief (for comparison, see Fig. 8.7). The other three reliefs in their own ways underline particular parts of family networks, such as the father and son both represented as priests, which might underline the direct hereditary priesthood. The reliefs showing the priest with his child

and the priest with his father and possibly his sister or wife are also, so to say, small extracts of larger family networks, which underline the family line or, in the last case, might underline the family's links to other Palmyrene families. They are, so to say, 'extracts' of a larger whole, which point to various parts of this whole as being more important to show than others. Most importantly, however, they point to the living networks which were in place and stayed in place even beyond death. The living mother with her dead son, the dead father with his living child and the living father with his dead son.



Figure 8.3. Relief depicting several priests on an altar in the temenos of the Sanctuary of Nebu in Palmyra (© Rubina Raja).



Figure 8.4. Loculus relief depicting priest and child. At present in British Museum (I. N. BM 125033). Photo from the Ingholt Archive, Ny Carlsberg Glyptotek, Copenhagen (© Rubina Raja)



Figure 8.5. *Locus* relief depicting priest and woman. Location unknown (database number in the Palmyra Portrait Project database: UNK032). Photo from the Ingholt Archive, Ny Carlsberg Glyptotek, Copenhagen (© Rubina Raja)

The sarcophagi, after the *loculus* reliefs, present the secondlargest group within the funerary sculpture where Palmyrene priests occur.⁴³ However, in the case of the sarcophagi all priestly representations are depicted together with other individuals, since no sarcophagus images represent only one individual. The eighty-four portraits of priests on the sarcophagi are divided across forty-nine objects (sarcophagus lids and boxes). Out of these forty-nine sarcophagi, of which several are not complete, there are only four on which it is not completely clear whether a priest is in fact depicted.⁴⁴ Two of them depict men with *modii* behind their left shoulders, indicating that they held or possibly still held priesthoods. On two of the sarcophagi it is inferred from the clothing and holding of objects (damaged pitchers and incense bowls) that priests were depicted here.

The last forty-five sarcophagi (box or lid or both) hold between one and five depictions of Palmyrene priests. There are only seven sarcophagus parts that only depict one priest and these examples are not always complete and either box or lid are missing, so it is in fact not possible to demonstrate for sure that they only represented one priest in the family setting. In any circumstance, we can conclude that when priests are depicted on sarcophagi, they are most often depicted together with other priests (brothers, fathers, sons – as far as inscriptions tell us) as well as further family members.



Figure 8.6. Loculus relief depicting two priests. Palmyra Museum, Palmyra (I. N. 2678/8984). Photo from Colledge, Art of Palmyra, 1976 (© Colledge 1976).

This is certainly a pronounced pattern, which differs from the depictions on the loculus reliefs. One might argue that the loculus reliefs were more suited for single depictions, but as shown above, priests were more often than other individuals shown alone in the loculus reliefs. In the four cases where priests were depicted together with other family members in loculus reliefs, there is only one case in which two priests are shown together. Therefore, it seems reasonable to suggest that the continuation of priesthoods in a family, very likely through hereditary claims, was what was in particular underlined through the depictions of several priests in most sarcophagi representations.

Conclusion

When depicted alone in loculus reliefs the individuality of the person depicted might, on the one hand, have been underlined in the Palmyrene funerary sculpture. However, this was an individuality that was supported by the network of family with whom the deceased would have been surrounded in the grave through the numerous other portraits set up in the tomb. Nevertheless, when shown in constellations this individuality was connected with specific smaller intra-family networks, which seems to have mattered a great deal within the Palmyrene funerary sculpture. So where the family constellations, on the one hand, may be described as comprised images of the family, on the other hand, they are images in which certain aspects of these family networks were consciously picked out, underlined and drawn to the front, to the very face of the public façade, which the person would show forever in the context of the grave. In the case of the Palmyrene priests there was a preference for individual depictions in the loculus reliefs, most likely because they were surrounded by more depictions of priests from their family in the tomb in which they were buried.⁴⁵ In the sarcophagi, however, emphasis was put on the depiction of several generations of priests from the same family. In this connection it is important to note that in the various constellations of multi-individual representations, importance was put on the living networks, namely the depiction of living family members together with the deceased, whereas the inscriptions accompanying both individual representations as well as multiple representations all point back in time, thereby underlining the generations which came before the deceased. In this way both past, present and future networks are included in many of these images, which remain so fascinating and rich in information that they will not be exhausted as sources to social patterns within Palmyrene society for many years to come.



Figure 8.7. Loculus relief depicting mother and daughter. Ny Carlsberg Glyptotek, Copenhagen I. N. 1025 (© Palmyra Portrait Project)

Notes

* I would like to thank the Carlsberg Foundation for generously financing the Palmyra Portrait Project in the period 2012–2015 and for prolonging the project for the period 2016–2019. I would also like to acknowledge the ERC Advanced Grant project, ‘Lived Ancient Religion’ (LAR), the Max-Weber-Kolleg, Universität Erfurt, as well as Jörg Rüpke, who invited me to spend the academic year 2014/15 as a fellow at the *Kolleg* and within the ERC group. Research assistant Signe Krag is warmly acknowledged for her work on drawing up the first catalogue of the priestly representations from the Palmyra Portrait Project database. For more information on the Palmyra Portrait Project see: <http://projects.au.dk/palmyraportrait/>

1 For a recent contribution dealing with evidence of Palmyra’s role in long-distance trade as well as for further references on the nature of Palmyrene long-distance trade, see E. H. Seland, “Palmyrene Long-Distance Trade: Land, River, and Maritime Routes in the First Three Centuries CE,” in *The Silk Road: Interwoven History*, ed. M. N. Ito-Adler and J. P. Walter (Cambridge, MA: Cambridge Institutes Press, 2015), 101–131.

2 For newer literature, see N. Andrade, *Syrian Identity in the Greco-Roman World* (Cambridge: Cambridge University Press, 2013); A. M. Smith, *Roman Palmyra: Identity, Community, and State Formation* (Oxford: Oxford University Press, 2013); T. Kaizer, *The Religious Life of Palmyra: A Study of the Social*

Patterns of Worship in the Roman Period. (Stuttgart: Franz Steiner Verlag, 2002). Also, see the following for substantial contributions to the study of Palmyra: J. Starcky and M. Gawlikowski, *Palmyre* (Paris: Librairie d'Amérique et d'Orient, 1985); E. Will, *Les Palmyréniens: La Venise des sables* (Paris: Armand Colin, 1992); F. Millar, *The Roman Near East, 31 B.C.–A.D. 337* (Cambridge, MA: Harvard University Press, 1994); A. Schmidt-Colinet, *Palmyra: Kulturbeggnung im Grenzbereich* (Mainz am Rhein: Verlag Philipp von Zabern, 1995); A. Sartre-Fauriat and M. Sartre, *Palmyre: La Cité Des Caravanes* (Paris: Gallimard, 2008); B. Bastl, V. Gassner and U. Muss, eds., *Zeitreisen: Syrien – Palmyra – Rom* (Vienna: Phoibos Verlag, 2010); J.-M. Dentzer and W. Orthmann, eds., *La Syrie de l'époque Achéménide à l'avènement de l'islam, vol. II* (Saarbrücken: Saarbrücken Drückerei und Verlag, 1989); E. Cussini, ed., *A Journey to Palmyra: Collected Essays to Remember Delbert R. Hillers* (Boston: Brill, 2005); M. Sommer, *Roms Orientalische Steppengrenze. Palmyra – Edessa – Dura-Europos – Hatra. Eine Kulturgeschichte von Pompeius bis Diocletian* (Stuttgart: Franz Steiner Verlag, 2005); A. Schmidt-Colinet and W. al-As'ad, eds., *Palmyras Reichtum Durch Weltweiten Handel. Archäologische Untersuchungen im Bereich der Hellenistischen Stadt*, 2 vols (Vienna: Holzhausen, 2013); K. Tanabe, *Sculptures of Palmyra I* (Tokyo: Ancient Orient Museum, 1986); J.-B. Yon, *Palmyre. Inscriptions Grecques et Latines de la Syrie XVII.1* (Beirut: Institut français du Proche-Orient, 2012).

3 For an introduction to the Palmyra Portrait Project as well as first results of the work undertaken, see A. J. M. Kropp and R. Raja, "The Palmyra Portrait Project," *Syria* 91 (2014), 393–405.

4 For an overview of the various groups of family constellations, see R. Raja, "Family Matters! Family Constellations in Palmyrene Funerary Representations," in *Acta Hyperborea* (Copenhagen: Museum Tusculanum, forthcoming).

5 For evidence concerning family networks and genealogy, see for example A. Sadurska and A. Bounni, *Les sculptures funéraires de Palmyre* (Rome: G. Bretschneider, 1994).

6 See Seland, "Long-distance Trade" for a study on trade networks of the Palmyrenes. For intra-Palmyrene networks, see Kaizer, *Religious Life*. For further references, see also Smith, *Roman Palmyra*.

7 Kaizer, *Religious Life*, is the most comprehensive study to date of the structure of Palmyrene religious life. For studies of some of the tesserae, their iconography and the implications that these tesserae or banqueting tickets hold for the understanding of the social patterns within Palmyrene religion, see also R. Raja, "Staging 'Private' Religion in Roman 'Public' Palmyra. The Role of the Religious Dining Tickets," in *Public and Private in Ancient Mediterranean Law and Religion. Historical and Comparative Studies*, ed. J. Rüpke and C. Ando (Berlin: Walter de Gruyter, 2015), 165–186, and R. Raja, "Cultic Dining and Religious Patterns in Palmyra. The Case of the Palmyrene Banqueting Tesserae," in *Antike. Architektur. Geschichte: Festschrift für Inge Nielsen zum 65. Geburtstag*, ed. S. Faust, M. Seifert and L. Ziemer (Aachen: Shaker Verlag, 2015), 181–200.

8 This has certainly been acknowledged but never fully explored. Only in the case of in-situ portraits has it been possible to undertake studies of family genealogies. For such studies, see K. Saito, "Excavation at Southeast

Necropolis in Palmyra from 1990 to 1995,” *ARAM* 7 (1995), 19–28; K. Saito and T. Higuchi, *Tomb F – Tomb of Bwlh and Bwrp – Southeast Necropolis Palmyra, Syria*, 2 vols. (Nara: Research Centre for Silkroadology, 2001–2002); K. Saito, “Die Arbeiten Der Japanischen Mission in Der Sudost-Nekropole,” in *Palmyra: Kulturbegegnung im Grenzenland*, ed. A. Schmidt-Colinet (Mainz am Rhein: Verlag Philipp von Zabern), 32–35.

9 For some methodological considerations on the meaning of the priestly representations, see R. Raja, “Representations of Priests in Palmyra. Methodological Considerations on the Meaning of the Representation of Priesthood in Roman Period Palmyra,” *Religion in the Roman Empire* 2 (2016), 125–146. In this contribution, I argue that the priestly representations are not depictions of a “profession” but rather of an “office” being held and possibly having been inherited or passed on within the family. This would mean that being depicted as a priest in itself would have carried a high status, which would have been a message that was clear to each and every Palmyrene and therefore priests did not need to be depicted in family constellations in order to underline the importance of their family and its line.

10 Aspects of these results have been published in Kropp and Raja, “The Palmyra Portrait Project.”

11 For an introduction to the history of Palmyra, see U. Hartmann, *Das Palmyrenische Teilreich* (Stuttgart: Franz Steiner Verlag, 2001).

12 The first attempt at a comprehensive overview of the then known Palmyrene funerary portraiture was H. Ingholt, *Studier over Palmyrensk Skulptur* (Copenhagen: Reitzel, 1928). Ingholt’s chronology by and large remains valid today.

13 See Raja, “Family Matters!” for an overview of these groups of constellations across the various forms of funerary representations.

14 Again see Hartmann, *Das Palmyrenische Teilreich*. Also U. Hartmann, “Das Palmyrenische Teilreich,” in *Die Zeit Der Soldatenkaiser. Krise und Transformation des Römischen Reiches im 3. Jahrhundert (235–284)*, ed. K.-P. Johne (Berlin: Walter de Gruyter, 2008), 343–378.

15 Kropp and Raja, “The Palmyra Portrait Project.”

16 Currently there are 1,162 loculus reliefs recorded in the database (1 December 2015).

17 P. Zanker, “Grabreliefs Römischer Freigelassener.” *Jahrbuch des Deutschen Archäologischen Instituts* 90 (1975), 267–315.

18 In this article, only the Palmyrene funerary portraiture is addressed.

19 Raja, “Representations of Priests.” Furthermore see M. Heyn, “Sacerdotal Activities and Parthian Dress in Roman Palmyra,” in *Reading a Dynamic Canvas: Adornment in the Ancient Mediterranean World*, ed. C. S. Colburn and M. Heyn (Newcastle: Cambridge Scholars, 2008), 170–193, which tackles some issues concerning the representations of Palmyrene priests.

20 Numbers are drawn from the database 1 December 2015. See M. Heyn, “Female Portraiture in Palmyra,” in *A Companion to Women in the Ancient World*, ed. S. L. Dillon and S. James (Cambridge: Cambridge University Press, 2012), 439–441 for the most comprehensive treatment of depictions of women in the Palmyrene funerary portraiture to date. Furthermore, a monograph on the topic of female representations in the funerary sculpture by S. Krag is forthcoming in the series Studies in Classical Archaeology

published by Brepols.

21 A recent count in the database, however, shows that as opposed to earlier assumptions, only approximately 3% of the portraits are dated through the inscriptions.

22 See the article by S. Krag and R. Raja, "Representations of Women and Children in Palmyrene Funerary *Locus* Reliefs, *Locus* Stelae and Wall Paintings," *Zeitschrift für Orientarchäologie* Krag, S. & Raja, R. (2016). Representations of women and children in Palmyrene funerary *loculus* reliefs, *loculus* stelae and wall paintings. *Zeitschrift für Orient-Archäologie*, 9, 134–178. See also Heyn, "Female Portraiture" for an analysis of a large number of the female funerary representations and the constellations within which they occur.

23 There are currently 1,162 *loculus* reliefs in the database. See also Krag and Raja, "*Locus* Reliefs, *Locus* Stelae and Wall Paintings," on constellations of women and children in *loculus* reliefs as well as S. Krag and R. Raja, "Representations of Women and Children in Palmyrene Banqueting Reliefs and Sarcophagi Scenes," (forthcoming 2017) on constellations with woman and children in banqueting scenes depicted on sarcophagi.

24 There are currently approximately 100 examples of these stelae motifs in the database, which are counted separately from the *loculus* reliefs.

25 A. Henning, *Die Turmgräber von Palmyra: eine lokale Bauform im kaiserzeitlichen Syrien als Ausdruck kultureller Identität* (Rahden: Verlag Marie Leidorf, 2013), and A. Schmidt-Colinet, "Palmyrenische Grabarchitektur," in *Palmyra: Geschichte, Kunst und Kultur der syrischen Oasenstadt*, ed. E. M. Ruprechtsberger (Linz: Gutenberg, 1987), 214–227, for further references to earlier graves with stelae as grave markers. Also R. Raja and A. H. Sørensen, "The 'Beauty of Palmyra' and Qasr Abjad (Palmyra): New Discoveries in the Archive of Harald Ingholt," *Journal of Roman Archaeology* 28 (2015), 439–450, for temple or house tombs and for further references.

26 These are counted separately from the *loculus* reliefs and there are currently 68 of these in the database.

27 Krag and Raja, "Palmyrene Banqueting Reliefs and Sarcophagi Scenes."

28 There are currently 205 sarcophagi registered in the database.

29 See, for example, the spectacular sarcophagus showing the deceased twice, once in Parthian dress and once in a Roman toga, in A. Schmidt-Colinet, "Zwei Neufunde Palmyrenischer Sarkophage," in *Symposium des Sarkophag-Corpus, Marburg 2001*, ed. G. Koch (Mainz am Rhein: Verlag Philipp von Zabern, 2007), 271–278, taf. 84–90, and "Nochmal zur Ikonographie zweier Palmyrenischen Sarkophage," in *Lokale Identität im Römischen Nahen Osten. Kontexte und Perspektiven*, ed. M. Facella, M. Blömer and E. Winter (Stuttgart: Franz Steiner, 2009), 223–234.

30 Database status 1 December 2015.

31 Heyn, "Sacerdotal Activities and Parthian Dress," is an attempt at a general discussion of some issues of priestly representations in Palmyra.

32 Kaizer, *Religious Life*, 235. I have written more extensively on this in Raja, "Representations of Priests."

33 See Kaizer, *Religious Life*, 235–236, for a summary of the scholarship mentioning the Palmyrene *modius*.

34 On the clothing of priests, see H. J. W. Drijvers, *The Religion of Palmyra*

(Leiden: Brill, 1976), 22; R. A. Stucky, "Prêtres Syriens I. Palmyre," *Syria* 50 (1973), 176, as well as J.-C. Balty, "Palmyre entre Orient et Occident: acculturation et résistances," *Annales Archéologiques Arabes Syriennes* 42 (1996), 437–441. Balty underlines that the cloak or mantle fixed with a fibula on the right shoulder as well as the broad belt worn high on the waist over the tunic form part of the priestly attire. This can now also be confirmed through the overview of the priests. The Hellenistic stelae depicting priests from Umm al-Ahmed also show these with a round hat with a flat top, hence the Hellenistic influence on the shape of the Palmyrene *modius*.

35 Kaizer, *Religious Life*, 235–242.

36 This observation is based on the survey of the portraits in the Palmyra Portrait Project database.

37 K. Parlasca, "Ikonographische Probleme Palmyrenischer Grabreliefs," *Damazener Mitteilungen* 3 (1988), 220, as well as A. Sadurska, "L'art et la société: Recherches iconologiques sur la sculpture funéraire de Palmyre," *Annales Archéologiques Arabes Syriennes* 42 (1996), 285–288.

38 In this contribution, only *loculus* reliefs and sarcophagi are considered. Banqueting reliefs are not included.

39 For graves with some in-situ reliefs, see for example Artaban's tomb in Sadurska and Bounni, *Les sculptures funéraires*, as well as A. Schmidt-Colinet, *Das Tempelgrab Nr. 36 in Palmyra. Studien zur Palmyrenischen Grabarchitektur und Ihrer Ausstattung* (Mainz am Rhein: Verlag Philipp von Zabern, 1992).

40 For the relief depicting two priests see M. A. R. Colledge, *The Art of Palmyra* (London: Thames and Hudson, 1976), 249–250, as well as K. al-As'ad, M. Gawlikowski, and J.-B. Yon, "Aramaic Inscriptions in the Palmyra Museum. New Acquisitions," *Syria* 89 (2012), 165, 1 for the inscription. For the relief with the priest and a child see Colledge, *Art of Palmyra*, 248; J. B. Chabot, *Choix d'inscriptions de Palmyre* (Paris: Imprimerie Nationale, 1922), 127, 13; Ingholt, *Studier*, 107, as well as M. Heyn, "Gesture and Identity in the Funerary Art of Palmyra," *American Journal of Archaeology* 114 (2010), appendix 5, catalogue 4. Inscription: CIS 4118 and PAT 0467. For a relief with the priest and his mother, see Ingholt, *Studier*, 119; Colledge, *Art of Palmyra*, 250 and 258, as well as Parlasca, "Ikonographische Probleme," 220, pl. 47d. For a relief with a priest, a woman (most likely his wife or his daughter) and another man (most likely his father), see Colledge, *Art of Palmyra*, 252 and 262. The inscription, which has been translated for the Palmyra Portrait Project by J.-B. Yon, reads, 'Image of Taime, son of Taime, Ya'qub ---. Alas! Image of Taime, son of M ---. Image of, --- daughter of, ---'. See Raja, "Representations of Priests," for a closer analysis and discussion of these reliefs.

41 *Loculus* relief depicting priest, woman and man. Damascus, Syria. Photo at: <http://www.unesco.org/fileadmin/MULTIMEDIA/FIELD/Beirut/images/Culture/2d221fd2eb.jpg> (accessed 15 Feb. 2017).

42 Kaizer, *Religious Life*, 240–242 as well as for further references.

43 There are currently 183 sarcophagi registered in the database.

44 Example 1, sarcophagus box (lid missing): Kaizer, *Religious Life*, 180, pl. VI as well as J. Rumscheid, *Kranz und Krone. Zu Insignien, Siegespreisen und Ehrenzeichen der Römischen Kaiserzeit* (Tübingen: E. Wasmuth Verlag, 2000), 222–223. Example 2, sarcophagus box and lid: Colledge, *Art of Palmyra*, 252,

264; Tanabe, *Sculptures of Palmyra*, 424–426, pl. 393–395 as well as Sadurska and Bounni, *Les sculptures funéraires*, 146–148, cat. 195, fig. 247. The lid of the sarcophagus, however, shows a reclining man with a *modius* placed on a pedestal behind his left shoulder. Example 3, sarcophagus box and lid: Rumscheid, *Kranz und Krone*, 223–242, kat. 272, taf. 66.1; Schmidt-Colinet, “Nochmal zur Ikonographie,” 223–234. The box of this sarcophagus, however, shows a man sacrificing, while a *modius* is placed behind his left shoulder. Example 4, sarcophagus box and lid: Colledge, *Art of Palmyra*, 252, 264, as well as Schmidt-Colinet, *Das Tempelgrab Nr. 36*, table 73 a. This sarcophagus is badly damaged and heads of all eight individuals are missing.

45 As mentioned above the few in-situ situations which are preserved seem to indicate this (note 40 for further references).

9. Trade networks among the army camps of the Eastern Desert of Roman Egypt

Yanne Broux*

Abstract: *Under the Romans, the ports of the Red Sea were vital junctions in the spice trade with the Far East. To protect the trade caravans, a series of army camps (praesidia) were established along the desert tracks between the Nile and these port towns. In contrast to the luxury goods passing through the area, the provisions supplied to the army were minimal. Thanks to the thousands of ostraca excavated in the region, a lively trade business between neighbouring camps has come to light, however, even though commodities were scarce. That there was money to be made in these peripheral communities did not escape the notice of civilians, and some seem to have settled near the camps permanently. This paper will take a closer look at the trade network of Philokles, a local businessman active in the Didymoi camp, and how soldiers and local merchants cooperated to make the best of their barren circumstances.*

Keywords: Roman Egypt, *praesidia*, trade networks, vegetables, prostitution

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Egypt's Eastern Desert is a region that, despite the wealth of material found there, is unfamiliar territory to many papyrologists. It was a strategic area for mining, quarrying and trade, but the land was too desolate to attract large, permanent settlements, and it fell outside the civilian administrative structure of the Delta region and the Nile

valley. In the Roman period the military dominated the region, and it is, therefore, generally ignored in studies of Greco-Egyptian society.

This does not mean that scholars completely neglect the Eastern Desert. On the contrary, thanks to increasing interest in the frontier zones of the Greco-Roman world and interaction with other, 'non-classical,' societies, the importance of this region has been highlighted by those working on long-distance trade, for example.¹

There is evidence that sections of the routes crossing the desert between Berenike on the Red Sea coast and Edfu and Koptos in the Nile valley were already in use during the Old Kingdom and earlier, but a substantial increase in settlements only began under the Ptolemies in the third century BC.² Berenike and Myos Hormos were the major emporia on the Red Sea coast, and it was through the former that the Ptolemies imported the elephants used in the wars against the other Hellenistic rulers.³

In the Imperial Roman period, trade with Africa and India flourished, especially in the second half of the first century AD.⁴ As many as 120 ships sailed from Myos Hormos each year, according to Strabo,⁵ loaded with Mediterranean products such as wine, glass and silver, and brought back all kinds of exotic products, such as spices (especially black pepper), fragrances and pearls. Mining activity also reached its peak under the Romans: emerald was extracted at Mons Smaragdus, granodiorite at Mons Claudianus, and Mons Porphyrites is the only known source of imperial porphyry in the Greco-Roman world.

This chapter has a more modest subject, however, focusing on micro trade networks between and among the small military settlements dotting the Eastern Desert. Thousands of ostraca documenting the provisioning and exchange of goods have been discovered at many of these sites. For some, such as the Mons Claudianus region, some of these texts have been made available;⁶ for many of the camps, however, a great deal of material still awaits publication.⁷ This is, therefore, an exploratory study, starting from ostraca discovered at the army camp of Didymoi. It focuses on a small dossier centred on a local businessman named Philokles, who turned the barren environment to his favour.⁸ With its focus on relationship structures and information flow (or in this case, flow of merchandise), a network approach can provide new perspectives on the routine functioning of these camps. This paper is a modest preliminary to such a study on the basis of the available Didymoi sample.

Didymoi and the army camps along the trade routes

Didymoi was part of a series of camps and stations positioned along the caravan routes between the Red Sea and the Nile valley (Figure 9.1). It was located on the track between Koptos and Berenike, which was favoured over the shorter route between Berenike and Edfu from the first half of the first century AD onwards. It was the first camp after the branch to Myos Hormos, and was connected to this road by several shortcuts through the desert.⁹

The garrison at Didymoi was probably not very large: based on lists from other camps, we can deduce that there were probably some 15 to 20 soldiers stationed here.¹⁰ There are few clues about the duration of a soldier's stay in these forts. In other frontier camps, such as in Nubia, soldiers are known to have stayed up to three years, but it is unclear if the situation there can be compared to these tiny caravan camps. Five months is the longest documented presence of a soldier at Krokodilô.¹¹

The main purpose of these camps was to protect the convoys and the mines from Bedouin raids:¹² the troops patrolled the desert to keep an eye on nomadic movements and escorted travellers along the routes. At the same time, they maintained and controlled the water supplies; judging by several 'recommendation' letters, water could not be taken or distributed freely.¹³

Water was scarce in this barren environment, so growing crops was out of the question. Wheat was supplied to the soldiers from outside by the military administration.¹⁴ With this, they could make their own bread and porridge. Each camp had a mill and an oven for this purpose; when these were out of order, the men had to appeal to neighbouring camps for bread.¹⁵ Their diet was more varied than bread and water alone, however. Based on the remains found during excavations and numerous letters documenting the distribution of goods, we know that fruit, vegetables and meat were also available, be it in limited quantities. The private letters from Didymoi, almost always mentioning requests for or the dispatch of goods, reveal a lively trade network with neighbouring camps: its inhabitants relied heavily on outsiders for their supplies. Meat (cured) was generally imported from the Nile valley, fish from the port towns, and vegetables were probably grown in Persou, from where they were then sent to neighbouring *praesidia*.¹⁶

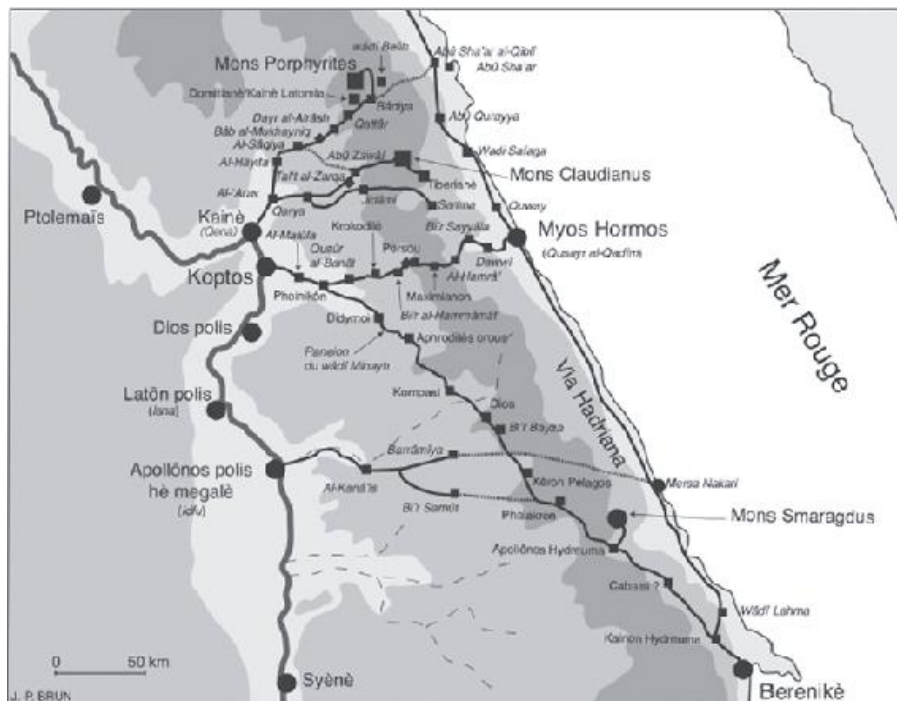


Figure 9.1. Map of the main routes through the Eastern Desert (© J.-P. Brun).

This shortage did not escape the notice of civilians; despite the bleak surroundings, some seem to have settled more or less permanently in the camps to complement this gap in the military market. They brought along their wives and even children, so that despite the military setting, the bulk of the population seems to have been made up of civilians.¹⁷

Philokles and trade with Didymoi

Philokles was one of those civilians who seems to have settled more or less permanently in this region. He appears as the sender and/or author of a whole group of ostraca that document activities around the beginning of the second century AD. We do not know the places of origin of most of the letters. In three of them, Philokles pays respect to the god Pan, who is associated with the Phoinikon camp (probably modern al-Laqeita), so it is likely he resided there. His name appears in texts from other camps along the routes to Berenike and Myos Hormos as well: the largest batch comes from Krokodilô, and there are some from Persou and Maximianon as well. This wide sphere of influence is one of the things that makes Philokles such an interesting

figure, but unfortunately, none of the texts from these other camps have yet been published,¹⁸ hence the focus on Didymoi.

Most of the Didymoi letters concerning Philokles are fairly short, and offer hardly any personal information. The editors do give some background information they distilled from the unpublished Krokodilô ostraca, however, so we do know a little about his private life.¹⁹

Philokles often mentions or addresses a woman named Sknips in his letters. He expresses concern for her when she is in Didymoi, and at one point he speaks of their child, so she seems to have been if not his official wife then at least his 'life companion.' She was involved in Philokles' business, for which she travelled around independently. From the unpublished ostraca, it also becomes clear that monogamy was not exactly Philokles' forte. Apparently, he had close relations with a woman named Hegemonis as well. The Didymoi letters mention her only sporadically, which led the editors to believe that she only came in at a later stage in Krokodilô, but since none of the ostraca can be dated very precisely, it is somewhat premature to make chronological assumptions. This could also mean that she was simply less independent than Sknips, and that Philokles kept her close.

Kapparis was Philokles' main correspondent in Didymoi. He also appears in the Krokodilô ostraca: he seems to have been an agent who travelled between the different camps and arranged Philokles' business there. Not much is known about the other people mentioned in the Didymoi letters. Judging by some of the Thracian and Latin names (e.g. Avizina, Herennius, Aquila), many of them were probably soldiers, but for only a handful is their profession actually stated.

There are twenty-four letters in total from Didymoi that can be traced back to Philokles: either they are sent by him (17), or they are written in his hand (7). Then there are ten others that cannot be linked to him directly, but involve some of his contemporaries and acquaintances. Some of the letters are too fragmentary to be of use, others do not mention anything about the exchange of goods, so in the end we are left with twenty-eight ostraca that provide some information about Philokles' activities.

Most of these letters are brief: the author sends his greetings, along with some merchandise:

ΦΙΛΟΚΛῆς Καππάρι τῷ ἀδελφῷ πλεῖστα χ(αίρειν)· ἔπενψόν σου διὲ τῆς Σμαραγδαρίας βαυκάλιν μεσστὸν πτωμάτων ὃ{ο}πο ἔνι μῆλα κ καὶ κολοκύνθι{θι}α β καὶ δι' Ἐρεννίῳ τῷ εἰππέος θριδακες ις καὶ μῆλα ι καὶ κρόμηα ι κ<α>ι γλήχωναν καὶ κολοκύνθιν ἀντιγράψις μοι εἰ ἔλαβες καὶ Πρόκλῳ δέσσην χράνβης, ἀσπάζετέ σ<ε> Σπὶν πολλὰ. ἔρρωσου.

Philokles to his brother Kapparis, many greetings. I sent you through the woman emerald worker a jar full of windfalls in which there are 20 apples and 2 gourds, and through Herennius, the horseman, 16 lettuces and 10 apples and 10 onions and some pennyroyal and a gourd. Answer me whether you received it. And (I also sent) a bunch of cabbage for Proclus. Spin [=Sknips] sends you many greetings. Farewell.²⁰

Others are somewhat longer and bring some news or ask for favours. In these cases as well, the sender often seizes the opportunity to send along some goods:

Εἰουλία Σκνὶψ τῇ μη[τρὶ χαίρειν] καὶ κυρία. τὸ προσκ[ύνημά σου ποιῶ] παρὰ τῇ κυρία Ἀφρ[οδίτῃ - ca.6 -] ἰς Κορκοδιλῶν ἀσπάζο[- ca.10 -] Ἡγεμονίδα ἰς τὸ ἐμόν[- ca.4 - ἐπεμ]ψά σοι κολλούραν ἐκ τοῦ [- ca.5 -] συ μελήσει ἂν πληρώσω [- ca.5 -]βῶ πρὸς σέ · ἐπιθυμῶ σε γὰρ εἰδ[εῖν] ὅτι καὶ ἀσχημονῶ [[κα. ὠρτη]] {ἦκι κ} ἀσπάζου τὸν πατέρα καὶ Ἑρτοσιν καὶ Σαβεῖνεν καὶ Ἀντώνιν τὸν Σύρεν καὶ Ἀντώνιν τὸν οὐξιλλάρην καὶ Ποταμίονα καὶ Ἀπόλλων καὶ Μονάτιν καὶ Πρίβατεν.

Iulia to Sknips, her mother and lady, greetings. I do obeisance for you to the lady Aphrodite. [If you write] to Krokodilō, greet [X and] Hegemonis ... I sent you a loaf from the ... Take care that ... when I complete ... I shall come to you, for I want you to see that I am in need. Greet my father and Hertosis and Sabinus and Antonius the Syrian and Antonius the vexillarius and Potamion and Apollos and Munatius and Privatus.²¹

Figure 9.2 presents a visualisation of the trade network from the perspective of the Didymoi letters. The edges are directed to point from whom to whom the goods were passed on. The colours of the edges indicate which main commodities were exchanged between two people: light grey for food, clothing, hay and rabbit dung; dark grey for money; and black for prostitutes.²²

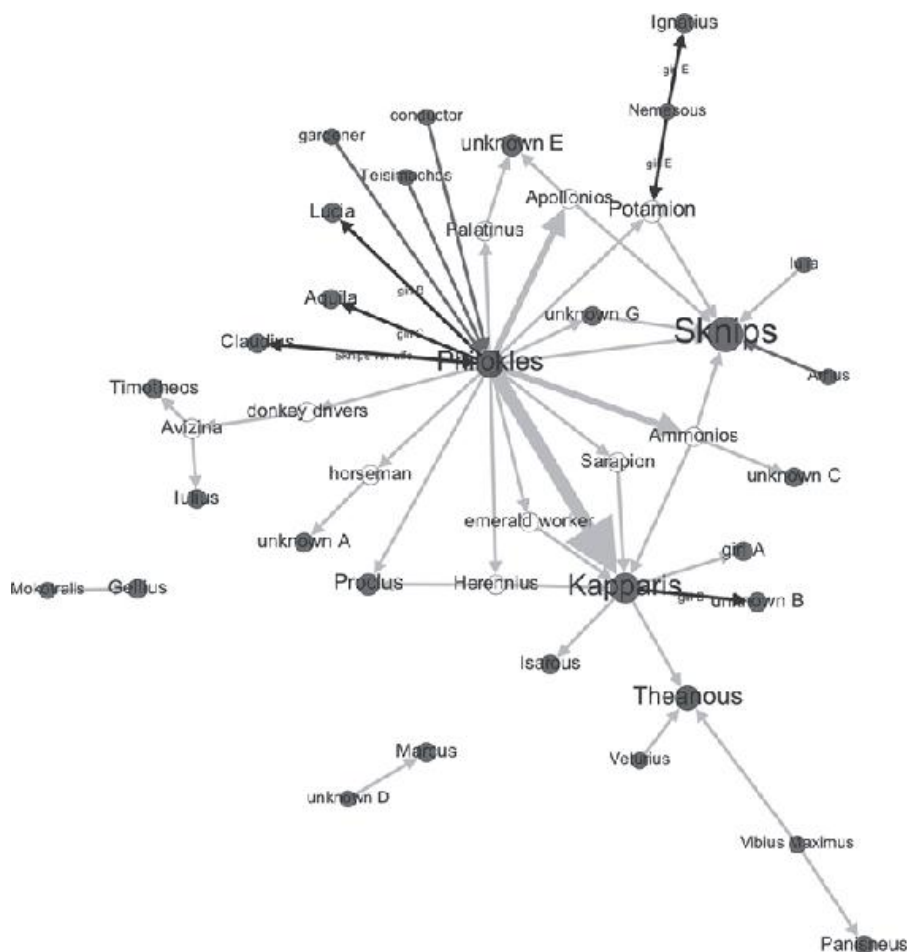


Figure 9.2. Trade network reconstructed from the Philokles ostraca from Didymoi.

Food is the most common merchandise (Figure 9.3): of the 54 ties documenting the transfer of goods, 41 are about food. Three quarters concern fruit and vegetables (apples, grapes, onions, lettuce, asparagus even, but mainly lots of cabbages). Although it was one of the soldiers' main staples, grain – and foodstuffs such as bread or porridge – are rarely mentioned; the army itself provided these. Meat and fish are equally scarce. The desert climate was not ideal for raising livestock, so most of the meat mentioned was probably cured and came from the Nile valley. The same goes for fish; Myos Hormos was over 100 miles away, Berenike over 200, so fresh fish was out of the question as well.

This is a very different picture from the one that emerges from the Nikanor archive, which documents the transportation of goods

from the Nile valley to Myos Hormos and Berenike from 18 BC until AD 69. Wheat, barley and wine were the main commodities, and they were probably meant for local consumption in the port towns, not for export.²³

Although we are dealing with a branch of the spice route, the only ‘exotic’ product mentioned in the Didymoi letters is pepper:

Μοκοτραλὶς Γελλ<ί>ω τῷ ἀδελφῷ πλεῖστα χαίριν καὶ διὲ παντὸς ὑγιένιν μετὰ τοῦ ἀβασκάντω συ [ἴ]ππῳ καὶ γὰρ αὐτὸς ὑγιέγ[ω]. οὐκ ἦν μέγα πρᾶγμα εἴ μοι ἔγραψες ἐπιστολήν. ὅσάκις ἂν γράφω τῷ παιδίῳ, γράφω ἀσπαζόμενος τὴν μητέρα σου μαρτυρίσι σου καὶ αὐτή.

(inserted between lines 1–2 and 2–3:)

πένψον μοι [ἂν] ἔχῃς μικρὸν πεπερίδιν.

Mokotralis to his brother Gemellus, many greetings and through all good health along with your horse, may it be protected from the evil eye. I myself am also well. It would not have been much trouble if you had written me a letter. As often as I write to the children I write saluting your mother. She herself will bear witness.

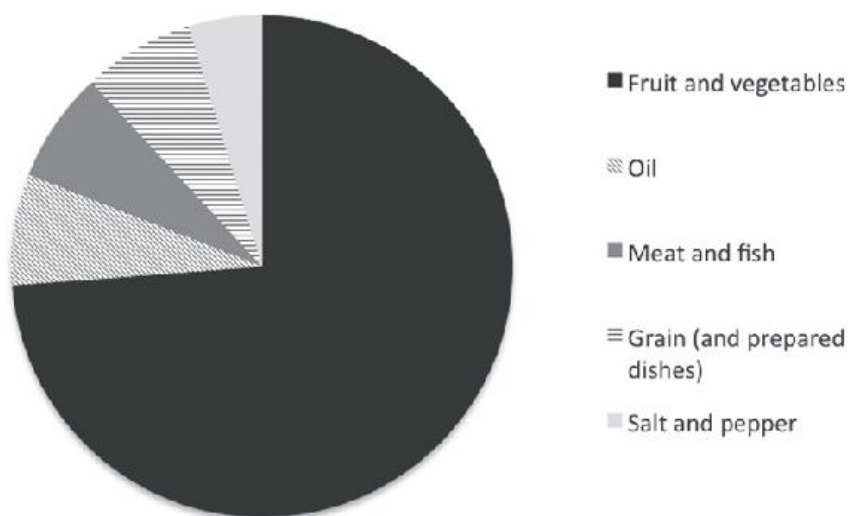


Figure 9.3. Food categories sent to Didymoi.

If you have any, send me some pepper.²⁴

In modest quantities, pepper was probably not too expensive, as Roman soldiers stationed near Hadrian’s Wall were also able to purchase it.²⁵ It is not surprising that no other exotic goods are mentioned, since soldiers were not a target market when it came to such merchandise. It could also signify that Philokles did not deal in

the Far Eastern trade, or that his business with the people in Didymoi was restricted to less valuable items. How profitable his local business was, can, unfortunately, not be deduced from our texts.

Philokles never asked for money for the products he sent. When it comes to Sknips, this is not unusual. However, he also sent pre-ordered goods to soldiers who then distributed them further, an exchange for which payment would be expected:

Φιλοκ[λ]ῆς Ἀβειζ[- τῷ τι]μιωτάτῳ πλῖσ[τα χαίρειν·] κόμισε ἀπὸ τῶν ὀν[ηλάτων] δέσμας χράνβης τ[ρεῖς ὧν] δώσις Ἰουλίῳ μίαν καὶ [Τι]μοθύῳ μίαν καὶ συ μίαν ἐκ τῶν τριῶ<ν>. κόμισε καὶ ἄλλην μίαν, αἱ γίγοντε τέσσαρας [ὧν σ]οι λήνψῃ δύω καὶ Ἰουλίῳ μίαν καὶ {ο} [Τι]μοθύῳ μίαν [καθώς] μοι ἐνετίλου. ἀσπάζου Ἰούλιν καὶ Τιμοθυοῦ καὶ πάντας το[ὺς παρ' ἡ]μῶν.

Philokles to his most honored Avizina (?), greetings. Please receive from the donkey drivers three bunches of cabbage, of which you will give one to Iulius, one to Timotheos, and one for yourself of the three. Please also receive another one, and it makes four, of which you will take two for yourself, one for Iulius, and one for Timotheos as you ordered me. Greet Iulius and Timotheos and all of your people.²⁶

Either Philokles was rich enough to act as a sort of vegetable patron, distributing small amounts of food and other commodities, perhaps to make himself popular with an eye to his other business: prostitution (for which it is very clear in these texts that his clients needed to pay), or the payment of these goods was settled beforehand. This would be the most obvious explanation, but the extant texts do not allude to this.

Finally, someone with a business like Philokles certainly required contacts in the Nile valley. Fruit and vegetables were grown locally in Phoinikon and Persou and probably elsewhere in the desert; they would wither away during a longer journey. Meat, hay and clothing needed to be brought in from the valley, however. Attempts to attach him to the valley have not been successful though. The name Philokles is rare in Roman Egypt. Apart from our Philokles, there is only one other attestation, but since this is a patronymic in a Fayum tax register from the middle of the first century,²⁷ it cannot possibly be the same one.

What about those whores?²⁸

Philokles' most lucrative business did not involve groceries, however. As presented in [Figure 9.2](#), he also dealt in prostitutes. In the Didymoi letters, these prostitutes were never mentioned by name, so again,

background information is scant. They were always referred to as κοράσιον, indicating a rather young age. It is likely that some of the women who are mentioned by name actually worked for Philokles. Once he asked his business partner Kapparis to take care of a girl for whom he did not yet have a new contract, and he sent along food for her:

Φιλοκλῆς καὶ Σπ[ιν] Καππάρι τῷ ἀδελφῷ πλῖστα χαίριν· τὸ προσκύνημά σου ποῶ παρὰ τὸν Πᾶν. Ἀδελφε· ἐρωτῶ σε καὶ παρακαλῶ ἔπεχε τὸ κοράσιον [traces 2 lines] γινώσκιν σε θέλω ὅτι [-ca.?-] νυπα [-ca.?-] ἔπενψον ὑμῖν τὰ μέρη πάντα ἐκ τῷ χοιριδίῳ καὶ δύο δέσσας ἀσφαράγου, σου καὶ τῷ κορασίῳ. ὃ ἂν τι ποῇ μελήσι σου ὥς εἰδῶ ποῦ μέλλει ..ε...κ... [-ca.?-]

Philokles and Spin [=Sknips] to their brother Kapparis, many greetings. I make obeisance for you to Pan. Brother, I ask and implore you, take care of the girl [...] I sent you all the parts of the pig and two bunches of asparagus, for you and the girl. Whatever she does will be your concern until I know where she is going to [...]²⁹

Perhaps Theanous and Isarous, the beneficiaries of some apples in O. Did. 377 (TM 144938), worked for Philokles as well.

Φιλοκλῆς Καππάρι τῷ ἀδελφῷ χαίριν· ἔπενψόν σου διέ{ι} Σεραπίωνος κολοκύνθια δύο καὶ διέ Ἀμμωνίῳ βαυκάλιν ὅπο<υ> ἐνὶ μῆλα κ καὶ πτώματα μεσοτόν. δώσις Θηανο<ῦ>τι δ καὶ πτώματι μ καὶ Εἰσαρο<ῦ>τι μῆλα δ καὶ πτώματα μ. καὶ ἂν τι χρήζης πένψον μοι εἶνα σου πένψω.

Philokles to his brother Kapparis, greetings. I sent you through Sarapion two gourds and through Ammonios a jar in which there are 20 apples and filled with windfalls. Give Theanous 4 and 40 windfalls, and Isarous 4 and 40 windfalls. And if you need anything, write to me so that I can send it to you.

Philokles not only had young girls on offer, however; he even rented out his own wife. Chances are, therefore, that Sknips actually started out as one of Philokles' young girls. Apparently, this was not unusual, since we have an account mentioning him sending Sknips to Didymoi, while a certain Claudius sent his "wife" to wherever Philokles was in return:

... οἶδες ὅτι Κλαύδις ἂν δὲ ἐργασίαν τῷ ᾧδ<ε> ἐνθῖν ο<ῦ> μή με ταράξῃ. ἂν δὲ ᾧδε ἐνθῇ, ἂν δὲ ἐκὶ μένῃ, ἀποδώσω αὐτῷ τὴν ὑβριν τὴν σου ἐπόησαν τέσο τὸν χρόνον ἐπόησεν ἢ γυνὴ αὐτοῦ ᾧδε{ν} καὶ οὐκ ἀφῆκον οὐδέναν{ν} αὐτὴν ὑβρίσε. οἶδες καί, ᾧδε ἂν ἐνθῇ, τῶν θεῶν θελόντων κ<α>ὶ τῷ Πανός, ο<ῦ> μή με σαλεύσῃ, ἀλλὰ ἀποδώσω αὐτῷ τὴν ὑ{τὴν ὑ}βριν τὴν σου ἐπόησαν. οἶδες ὅτι ο<ῦ> μή με νικήσῃ ἂν ἦν περὶ χαλκοῦ ...

... You know that if Claudius makes the efforts to come here, it does not bother me at all. Whether he comes here or stays there, I shall give him back the violence which they did to you, while his wife was doing time here, and I did not

allow anyone to violate her. You also know that if he comes here, the gods and Pan willing, he shall not shake me, but I shall give them back the violence that they offered you. You know that he could not beat me if it were about money. ...

30

Sometimes Philokles rented out a girl to specific individuals for a longer period of time, but generally they were moved from camp to camp on a monthly basis, no doubt to keep the clients interested. Specific girls could be requested, though, as is the case in this letter:

Λονγεῖνος κουράτωρ Ἀφροδείτης Ὀρος Κιλικᾶτι τῷ ἀδελφῷ χαίρειν· ἠρώτηκάν με οἱ ἐκ τοῦ πραισιδίου ἵνα σοι γράψω περὶ τῆς παιδίσκης σου ἥ σοι βαστάζει τῶν ἐξήκοντα δραχμῶν. πέμψον καὶ πρὸς ἐμέ ἐστι ὁ χαλκὸς ἡ πέμψον μοι φάσιν καὶ πέμψω σοι καὶ τὸ τοῦ κονδουκτορος πρὸς ἡμᾶς ἐστι. ἔρροσο.

Longinus, curator of Aphrodites Orous, to Kilikas, his brother, greetings. The men at the praesidium asked me to write to you concerning your girl who makes you 60 drachmas. Send her and I shall take care of the money, or send me an answer and I shall send you the money, and the money for the conductor is for us to pay.

Farewell.³¹

The average price for a month was 60 drachmas, to which was added a fee (*quintana*) of 12 drachmas, which is the money meant for the conductor mentioned in the above letter.³² The soldiers who wanted to make use of this service all chipped in together to meet the price. The exact terms of the agreement were specified in a contract, called a (μίσθωμα) κυκλευτικόν, which referred to the habit of these prostitutes ‘turning’ from client to client.³³

When looking at the Didymoi network again (Figure 9.2), we see that, when it comes to his dealings concerning prostitutes, Philokles had more personal contact with his clients. Only once did he act through a middleman in Didymoi; important clients normally all came to him personally. According to the descriptions of some of the Krokodilô ostraca, however, he did use middlemen there as well. This was not someone who occasionally rented out his wife or a slave girl he kept at home to make some extra money on the side. Philokles had people ‘in the field’ scouting for possible interested parties, and he was known along the entire trade route. In one letter, he even mentions a woman, Lucia, coming all the way from Myos Hormos for a girl. This was a well-organized prostitution network, which was no doubt more profitable and a safer bet than growing vegetables: harvests could always fail, and such fresh goods were not necessarily available year-round.

Philokles’ central position in Didymoi’s trade network is remarkable. A high degree of centrality would be expected if this were

an archive of texts collected by himself. In this case, however, we are dealing with texts sent by Philokles to others in Didymoi.³⁴ Even from this small sample alone, it is clear that Philokles was an important figure, if not the key figure, when it came to the provisioning of the desert camps along the Myos Hormos and Berenike routes. Bérangère Redon (Université de Lyon) is currently preparing a study of his entire network, incorporating the as yet unpublished documents of the dossier as well. It will, no doubt, provide a more complete and detailed picture of Philokles' business, and it will be interesting to learn more about these local trade networks that existed parallel to the more widely known and exotic routes for which these camps were established in the first place.

Notes

* I would like to thank the reviewers for providing helpful comments on earlier drafts of the manuscript.

1 S. E. Sidebotham. S. E. Sidebotham, M. Hense and Hendrikje M. Nouwens, *The Red Land: The Illustrated Archaeology of Egypt's Eastern Desert* (Cairo: The American University in Cairo Press, 2008).

2 K. Mueller, *Settlements of the Ptolemies. City Foundations and New Settlement in the Hellenistic World*, *Studia Hellenistica* 43 (Leuven: Peeters, 2006), 48.

3 L. Casson, "Ptolemy II and the Hunting of African Elephants," *Transactions of the American Philological Association* 123 (1993), 247–260.

4 M. Cobb, "The Chronology of Roman Trade in the Indian Ocean from Augustus to Early Third Century CE," *Journal of the Economic and Social History of the Orient* 58(3) (2015), 362–418.

5 Strabo, II.5.12.

6 J. Bingen, A. Bülow-Jacobsen, H. Cuvigny, W. E. H. Cockle, L. Rubinstein, W. Van Rengen, F. Kayser, (eds.), *Mons Claudianus. Ostraca graeca et latina I–IV*. Documents de fouilles de l'Institut français d'archéologie orientale du Caire 29, 32, 38 and 47 (Cairo: Institut français d'archéologie orientale du Caire, 1992, 1997, 2000 and 2009).

7 E.g. the texts from Maximianon, Persou (= Bir Umm Fawakhir) and the private letters from Krokodilô. The military records from Krokodilô have been published in H. Cuvigny (ed.), *Ostraca de Krokodilô: la correspondance militaire et sa circulation (O. Krok. 1–151). Praesidia du désert de Bérénice II*. Documents de fouilles de l'Institut français d'archéologie orientale du Caire 51 (Cairo: Institut français d'archéologie orientale du Caire, 2005).

8 A. Bülow-Jacobsen, "Private Letters," in *Didymoi. Une garnison romaine dans le désert Oriental d'Égypte. Praesidia du désert de Bérénice IV–II: les textes*. Documents de fouilles de l'Institut français d'archéologie orientale du Caire 67, ed. H. Cuvigny (Cairo: Institut français d'archéologie orientale du Caire, 2012).

9 See the detailed map of the Myos Hormos route in H. Cuvigny (ed.), *La route de Myos Hormos. L'armée dans le désert Oriental d'Égypte. Praesidia du désert de Bérénice I*. Documents de fouilles de l'Institut français d'archéologie

orientale du Caire 48(2) (Cairo: Institut français d'archéologie orientale du Caire, 2003), 663.

10 Ibid., 307–309.

11 Ibid., 311–312.

12 Ibid., 321ff. for a more detailed analysis, with references to sources, of the functions of the camps.

13 See also S. E. Sidebotham, *Berenike and the Ancient Maritime Spice Route* (Berkeley, CA: University of California Press, 2011), ch. 7: “Water in the Desert and the Ports.”

14 H. Cuvigny, “Introduction,” in *Didymoi: les textes*, 29.

15 O. Krok. inv. 585.

16 Evidence for vegetable gardens is also found in the documentary and archaeological records from Mons Claudianus: M. van der Veen, “Gardens in the Desert,” in O. E. Kaper (ed.), *Life on the Fringe. Living in the Southern Egyptian Deserts during the Roman and Early-Byzantine Periods*, CNWS Publications 71 (Leiden: Research School CNWS, 1998), 221–242.

17 H. Cuvigny, “Le fonctionnement du réseau,” in *La route de Myos Hormos*, 309.

18 A second volume of the Krokodilô ostraca is now being prepared by A. Bülow-Jacobsen, J.-L. Fournet and B. Redon.

19 See Bülow-Jacobsen, “Private Letters” and H. Cuvigny, “La société civile des *praesidia*,” in *La route de Myos Hormos*, 376ff, for more information on the Philokles dossier.

20 O. Did. 376 (TM 144937).

21 O. Did. 386 (TM 144947).

22 In the case of prostitutes, the edges are labelled. For most of these ‘girls’ we do not have a name, however, so they are labelled anonymously as ‘girl A’, ‘girl B’, etc.

23 K. Ruffing, “Das Nikanor-Archiv und der römische Süd- und Osthandel,” *Münstersche Beiträge zur Antiken Handelsgeschichte* 12(2) (1993), 1–26.

24 O. Did. 399 (TM 144960).

25 Vindolanda Tablet 184 (consultable at: avindolanda.csad.ox.ac.uk/tablets/index.shtml).

26 O. Did. 391 (TM 144952).

27 P. Lond. 2, 146–148 no. 181 (TM 11644).

28 See also Cuvigny, “La société civile des *praesidia*” and Cuvigny, “Femmes tournantes: remarques sur la prostitution dans les garnisons romaines du désert de Bérénice,” *Zeitschrift für Papyrologie und Epigraphik* 172 (2010), 159–166.

39 O. Did. 379 (TM 144940).

30 O. Did. 393 (TM 144954).

31 O. Did. 430 (TM 144991).

32 A steep fee of 108 drachmas was also charged for bringing a prostitute into the desert (in comparison, the charge for a “regular” female companion was 20 drachmas): I. Prose 59 (TM 88375). This was easily regained, however; operating at the standard 60-drachma rate, a pimp could start turning a profit after only two months.

33 Cuvigny, “Femmes tournantes.”

34 All ostraca from the period c. AD 76–150 were found together in a dump,

so it is not clear whether they were kept by the addressees themselves, or 'archived' by a central figure (perhaps Kapparis).

10. Palmyrene merchant networks and economic integration in competitive markets

*Katia Schörle**

Abstract: *This paper proposes the use of economic thinking to understand the motivations and reasons behind the development of the extensive commercial networks of Palmyra. As opposed to macro-economics, micro-economics refers to the study of economic behaviours of individual units; here two different forms of merging will be studied while examining the patterns of Palmyrene merchant activities: vertical and horizontal integration. For this purpose, the paper will review parts of the corpus of epigraphic evidence available in order to explain economic advantages and strategies behind the creation or use of social networks.*

Keywords: Palmyra; Roman East; Roman economy; economic integration; social networks; merchant networks

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Introduction

There has been a long-standing academic interest in the economy of the Roman world, often with different methodologies and approaches used in order to examine its nature.¹ While the dichotomy of primitivist/modernist approaches has long fuelled discussions, scholars have begun to distance themselves from both models and argued that we need to find different approaches such as institutional economics, or network analysis, but that we also need to nuance our discourse.² There is no doubt, however, that modern methodologies

remain useful in that they form a proposition from which to examine aspects of ancient societies, even if we only use data with caution, and acknowledge that the data will always be fragmentary and often insufficient. The sorts of viable conclusions we can make depend on both caution and clear-sightedness on the limitations of the dataset. Overall, when looking at the trends in an economy, each approach has generally focused on the large scale, or aggregate economy, which is often referred to as macro-economics.³ The focus has thus been on the total sum of economic activities in the Roman world, growth and performance, structure, and the decision-making processes on a very wide level, whether empire-wide, regional, or what is now sometimes called ‘global economies.’ In this paper, I would like to consider a different approach to economics by taking a bottom-up approach focusing on individuals. As opposed to macro-economics, micro-economics refers to the study of the economic behaviour of individual units within the economy. These can be a person, a household, a firm or an industry. The main approach is therefore to look at patterns on a very small-scale basis to assess the individual impact of particular actions, decisions or collaborations, for example, and is entirely feasible for certain sets of data concerning the period in question – the Roman imperial period.

Integration and ancient economies

Micro-economics is the study of factors that affect individual economic choices, as well as the effect of changes in the factors on individual decision making. Individual connections and networks are therefore considered to be important in the assessments of the wider economic activities of an individual or individual unit. One aspect of micro-economics that has recently been employed in the study of the ancient world and in the interpretation of the epigraphic corpus is that of integration, which looks at ways in which the industry or individual units within the industry merge.

In 2009 Morris Silver proposed that despite the difficulties and gaps in the historical and archaeological data it was in some cases possible to identify the way people chose to concentrate parts or sectors of commercial activities into the hands of a person or group of people, according to a principle which in modern economic terms is coined vertical integration.⁴ Essentially, vertical integration defines mergers of different activities within a commercial *supply chain* or the taking over of different phases of the process of bringing goods from

the point of origin (initial production or manufacture) to the selling point. Vertical integration can be described as *backward* or *forward integration* depending on whether a person or a group (as in the case of the Palmyrenes) acquires an additional activity closer to the source (*backward integration*) or the selling point (*forward integration*). Following from Silver's observations, Broekart pointed out that vertical integration could indeed be identified in the major sectors of trade in the ancient world, namely grain, wine, meat and cattle, olive-oil and fish and fish-sauces. He therefore argued that the processes of integration could be found more easily than expected, and that integration was not an uncommon process in the Roman world.⁵ For example, G. Terentius Varro, who became notorious as a consul in Asia Minor and was involved in several networks, was, according to one tradition recorded by Livy, of humble origins. His father was supposedly a butcher who employed his son to engage in commercial transactions as well.⁶ In this example, by integrating the retail industry through forward integration, the Varros could invest efforts into a different activity within their line of business and integrate/control several parts of the meat sector.

Theoretically, integration can also be multiple and multidirectional, so backward and/or forward or integrating several steps backward or forward is entirely possible within any type of commercial activity, just as it is possible to control all the chains of production and transport from origin until the final sale. While vertical integration describes the taking over of stages of the process of bringing goods from the point of origin to the selling point, another type of merger is also commonly discussed in modern economics, but has so far not yet been discussed with regard to the ancient world, namely horizontal integration. Horizontal integration also concerns the acquisition of a new branch of activity but in a different way: by definition, horizontal integration describes the process of acquisition of additional business activities that are at the same level of the value chain in similar or different industries. The key point here is that the activity is at a similar level of the supply chain, while in vertical integration different levels of the value chain are integrated. In terms of examples, a fuller or a group of persons acquiring different fulleries within the same town, or deciding to acquire fulleries in different cities, would thus engage in horizontal integration.

Identifying the Palmyrenes' commercial activities: networks and

commercial practice

I will now focus on identifying these economic strategies within a well-known group of merchants from the eastern part of the Roman Empire, from the city of Palmyra. Indeed, in the case of the East and commerce to the Euphrates, there is no doubt that the Palmyrenes occupied a central role in the organisation of the transport of goods to and from the Persian Gulf from the first through to the third century AD.⁷ Despite the fact that the exact nature of the wares transported still escape us, we are particularly well informed by the Palmyrene merchant inscriptions.

In total, some thirty-five merchant dedications dated between AD 19 and AD 260 have been identified throughout Palmyra.⁸ Most of the dedications mention individuals who assisted caravans returning from the Euphrates and the Persian Gulf and are the most important pieces of evidence for long-distance trade via Palmyra. Very formulaic in style, a few thank the leader of the caravan successfully returning from one of these cities. The name of the *synodiarchês*, the caravan leader, is sometimes given and he is being thanked by a group of merchants, whose names or number is never given. These dedications, all but one found in Palmyra, provide enough details to reconstruct a network through the group of people engaged in trade (generally referred to as 'the merchants') and the locations. These are tied by links formed by the known journeys of these merchants, and an organisation which clearly always has Palmyra as its centre: we can speak of a network.⁹

In the case of Palmyra, the epigraphic inscriptions make it very clear that transport and travels were organised by the merchants as a community whose clear intent is to engage in business as a group while abroad. While the earliest inscriptions mention travels to Seleucia (most likely Seleucia Ctesiphon) and Babylon, the majority of inscriptions in Palmyra mention Spasinu Charax or Vologesias, cities much further south on the Euphrates or near the river's mouth by the Persian Gulf.¹⁰ Palmyrene activities were therefore first focused on trading and transporting goods with the cities and market centres closest to Palmyra before reaching more attractive centres further south or on the Persian Gulf. The city of Palmyra thus engaged in both overland and in all likelihood fluvial transport. A third-century AD inscription mentions *askonautopoiôi*,¹¹ men belonging to the association of Palmyrene raft-makers, but carrying goods by rafts made with skins was a practice used earlier on, and is in fact already attested as an Assyrian practice.¹²

At some stage, in order to increase their economic advantage, and presumably increase their margin of profit, Palmyrenes began to expand their activities and absorb new sectors or parts of the transport industry – so to speak in economic terms, to develop through vertical integration. Land transport, via the Syrian Desert, became associated with more extensive fluvial transport. These activities were organised within the caravan's expedition, as a commercial activity organised within the group.

Over time, Palmyrene merchants began to expand their trade in the Persian Gulf itself and towards the Indian Ocean rather than using intermediaries. By the second century AD, Palmyrenes could rely on the island of Bahrain as a port of call for Palmyrene vessels on their way to India.¹³ This is known from several inscriptions. The involvement in seafaring, hence in a new economic sector and activity linked to trade and transport, is known for example from an AD 157 dedication by a group of merchants who went to Scythia (Northern India) in the boat of Honaino, son of Haddudan. Another inscription, also from AD 157 again mentions merchants coming back from Scythia on the ship of Beelaios Kyrou, while a third has recently been reinterpreted as mentioning the land of Kushan, which would imply a maritime voyage as well, but also demonstrates the ownership of seafaring vessels by the Palmyrenes.¹⁴ These inscriptions therefore clearly point to the development of activities in a very specific sector linked to mercantile activities, namely that of maritime transport, and not to merchant activities alone. The funerary relief of Julius Aurelius Marona (Tomb no. 150) of AD 236 also shows a merchant with a ship in the background, expressing the Palmyrene merchant's interest in maritime trade, or even the ownership of a sea-going vessel.¹⁵

The inscriptions and perhaps also the tomb relief attest to Palmyrene ownership of ships in the Persian Gulf, and potential direct sailing to India and the Indian Ocean. Most importantly it shows the expansion of activities linked to the transport of presumably similar types of goods in order to increase profit margins, bypass more expensive intermediaries and avoid unnecessary risk by developing a network of trust, thus reducing transaction costs. The absorption of different sectors of the transport industry for commercial wares coming from the Persian Gulf and Indian Ocean is a clear testimony of vertical integration undertaken by Palmyrene merchants dealing in Indian Ocean goods in order to reduce transaction costs and increase their profits.

Identifying and defining the merchants as a group or network is

key to building the argument that we can speak of economic integration principles concerning the Palmyrenes' long-term mercantile strategy. The network built by the group has as an aim to take over stages of bringing goods from their point of origin to their point of sale in Palmyrene or Mediterranean markets. That is not to say that all networks act according to economic principles, or that a network necessarily serves in favour of economic integration; a strong network of disparate or isolated merchants could be created to counter a serious competitor controlling much of the supply chain. In the case of the Palmyrenes, the network serves to take over and gain competitive advantage in the supply chain.

In search of other networks

Whether a Palmyrene merchant community network existed in the Mediterranean is less clear.¹⁶ Evidence of Palmyrenes in the Mediterranean exists, but finding direct mercantile ties between groups of Palmyrenes is a challenging task given the nature of the evidence. Military or individual inscriptions aside, few Palmyrene inscriptions can directly be linked to the realm of merchant activities. A Palmyrene is known, for example, on the island of Kos, from an altar with a dedication to Bel, Iarhibol and Aglibol.¹⁷ Kos was an important island along the maritime trade route past Asia Minor, and Koan wine was well known and exported throughout the Mediterranean since it was much appreciated for its singular taste. It would be tempting to think of a Palmyrene being present on the island to engage in mercantile activities, but nothing links the inscription to any Palmyrene mercantile network.

A Palmyrene community also existed in the city of Rome, as is known from several altars found in the area of the temple of Sol at Porta Portese,¹⁸ next to the Tiber river and opposite Rome's fluvial warehouses, in particular the Horrea Galbae. An altar has both a Latin and a Palmyrene dedication by Tiberius Claudius Felix, his wife and his son. The last line of the Latin dedication, *Calbienses de coh(orte) III*, possibly refers to the third *cohors* (court/warehouse) of the Horrea Galbae, Rome's major fluvial warehouse on the left bank of the Tiber, which was characterised by three long rectangular warehouses.¹⁹ If Tiberius Felix was a worker at the *horrea*, he could also have been engaging in mercantile activities, yet there is no direct link between his activities and either the community in Rome, or at Palmyra. In the Transtiberim district (Trastevere), almost directly across from the

horrea, a further two Palmyrenes commemorated the consecration of the Temple of Bel, one of whom, C. Licinius N., may be related to a C. Licinius Flavius known from the Palmyrene agora.²⁰ Yet the connection between these Palmyrenes and the city of Palmyra itself is never explicitly made; whether we may identify a diaspora trading community in the Mediterranean is therefore unclear. While some Palmyrenes may have invested in carrying goods towards Rome, it is more likely that the bulk of goods were simply funnelled towards the main trading centres of the Levant and the wider Mediterranean. So far, as tempting as it would be, there is not enough evidence available to ascertain either, or to point to direct networks or links between traders, transporters or people working in warehouses and Palmyra in order to discuss the advantages of economic integration and joint ventures made with the aim to carve a niche in a competitive market at the heart of the Roman Empire. So far, the evidence suggests that Palmyrenes preferred integration along the Persian Gulf and Indian Ocean routes rather than in the Mediterranean. Their community was already well implanted and represented outside the Roman Empire, and this advantage combined with less competition from long-established mercantile networks as in the Mediterranean may have been part of the incentive to develop along commercial routes which they had already mastered in part. One exception concerning evidence of Palmyrene mercantile trade in the Roman Empire however stands out, and deserves further attention: that is the case of Egypt.

Horizontal integration and Palmyrene investment in Egypt

While the evidence for commercial networks with Rome or in the Mediterranean as a whole remains difficult to assess, two inscriptions from Egypt reveal that Palmyrenes were commercially involved in Egypt via the Red Sea, and also engaged in fluvial transport along the Nile.

The first inscription comes from Koptos, a strategic city on the Nile in Upper Egypt at the gates of the Eastern Desert of Egypt, which was found during excavation in 1912. In the building discovered by Reinach was an inscription dated to the mid-second century CE which reads as follows:²¹

Ἰον Ζαβδάλα Σαλμά-

νου καὶ Ἀνεΐνα Ἀδρια-

νῶν Παλμυρηνῶν

ναυκλήρων Ἐρυθραϊκῶν,

ἀναστήσαντα ἀπὸ θεμελίου

τὸ προπύλαι[ι]ον καὶ τὰς στοῦας

τρεῖς καὶ τὰ θυρώ[μ]ατα ἐκ και-

νῆς, τὰ πάντα ἐκ τῶν ιδίων

αὐτοῦ φιλοκαγαθίας χάριν

[Α]δριανοὶ Παλμυρηνοὶ συν-

έμποροι τὸν φίλον.

Zabdalas son of Salmanos, also (called?) Aneinas, of the ship owners of the Red Sea from Hadriane Palmyra, who has set up anew from the foundations the *propylaea* and the three *stoas* and the chambers, entirely from his own funds, the merchants of Hadriane Palmyra (set this up) to their friend, for his friendship and distinction.²²

This inscription reveals that Zabdalas, who belonged to a group specifically called the Palmyrene ship owners of the Red Sea, must have been sufficiently established at Koptos to dedicate the foundations of a building there, much in fact like Soades, an important Palmyrene figure in the trade to the Euphrates, who built a temple at Vologesias.²³ The dedication holds further important information: it specifies that it was given by ‘the merchants from Hadriane Palmyra,’²⁴ which implies a direct link to the city of Palmyra, and thus that both the Palmyrene Red Sea ship owners and the Palmyrene merchants had clear common commercial interests, and worked together.

Furthermore, a second inscription strengthens the argument for a Palmyrene presence on the Nile and at the gates of the Eastern Desert of Egypt.²⁵ An inscription from Denderah dated to the second half of the second century AD, though very fragmentary, brings us perhaps further along in the argument that there was a network of Palmyrene traders working in Egypt itself:

[? Ἰούλ(ιον) Αὐρ(ήλιον) [Z.....]

Μακκαί[ου/ον?..... οἱ?]

καὶ ἔμπο[ροι?]

τὸν παρα[κομίσαντα ? τήν]

συ[νοδίαν]

‘Julius Aurelius... (son of?) Makkai (or Makkaios?) ... and the merchants ... bringing a caravan...’²⁶

On the left-hand side, one can still make out the Palmyrene script, while the central part of the inscription mentions the name of a Palmyrene in connection with merchants. Although there are no *naukleroi* mentioned in the inscription,²⁷ there are sufficient details, in particular the mention of *emporoi* and the formulaic nature of the inscription, to connect this inscription to the wider network of Palmyrenes since the Koptos inscription at least is clear about the presence of traders nearby. The inscription offers us an interesting detail which requires further consideration.

Both inscriptions come from very strategic locations in Egypt, namely not the maritime harbours of the Red Sea, such as Berenike or Myos Hormos, but the warehouses and points of transshipment at Koptos on the Nile, that is to say after the cargoes of goods were transported under seal from the harbours and had passed the customs at Koptos. But how do we explain a presence at Denderah which, on the other bank of the Nile, had its own navigational significance? While Koptos was obviously the connection point between the Nile and the Red Sea land route, Denderah was an important resting place after a difficult journey upstream of almost 40 km, when the navigators in the sailing season had the full power of the flood against them, and little or no northerly wind to help counter the current.²⁸ The Denderah bend was thus often a necessary stopping point in order to wait for better wind conditions to sail up the Nile. Having a Palmyrene presence there fully emulated the Palmyrene model of communities implanted in the main trading centres on the Euphrates in order to facilitate the commercial interests of the community as a whole.

The expansion into an entirely new geographic area but within the same sphere of activities as those the Palmyrenes engaged in along the Euphrates can be described as horizontal integration. Once the Palmyrenes had successfully taken over all the transport sectors of one of the two routes linked to the commerce of Persian and Indian Ocean goods, it was much easier for them to grow by developing laterally towards the Mediterranean, namely by expanding towards the Red Sea, and then further on into Egypt.

Conclusion

To conclude, between the first to third centuries AD, the Palmyrenes

extended their economic activities by using two different economic concepts linked to integration: both vertical and horizontal integration. The accumulation or aggregation of different parts of the links in the trade into the hands of a group – trading, taking care of land, fluvial and maritime transport, so integrating vertically, was one of the ways that the Palmyrenes were able to gain economic advantage – namely by reducing transaction costs linked to different sections of the transport industry. Although for the Mediterranean as a whole the evidence of Palmyrene networks is relatively scarce, Egypt particularly stands out. The Palmyrene data shows that Palmyrenes were both engaging in vertical integration in order to offset transport and transaction costs along the Euphrates, Persian Gulf and Indian Ocean, but that their activities of transportation and trade extended beyond their usual geographic area: the extension on a lateral level, namely horizontal integration, implied that in order to grow, the Palmyrenes extended their networks into Egypt, where the bulk of lucrative Indian Ocean goods landed before making their way into the heart of the Roman Empire.

Notes

* I would like to express my deepest gratitude to Jean Andreau who kindly agreed to read and discuss this text with me, and also to Jean-Baptiste Yon who supplied me with a reference which I could not verify in timely fashion. My warmest thanks also go out to the editors and reviewers for their useful comments. Any mistakes, of course, remain entirely my own.

1 The main divide in research into ancient economies has been along the ‘modernist’ and ‘primitivist’ approaches, a debate described by Hopkins, for example, as an ‘academic battleground’ (K. Hopkins, “Introduction,” in *Trade in the Ancient Economy*, ed. P. Garnsey, K. Hopkins, and C. R. Whittaker (London: Hogarth, 1983), ix.

2 For example: J. G. Manning and I. Morris, *The Ancient Economy: Evidence and Models* (Stanford, CA: Stanford University Press, 2005); W. Scheidel, I. Morris and R. P. Saller (eds.), *The Cambridge Economic History of the Greco-Roman World* (Cambridge: Cambridge University Press, 2007).

3 One such approach, for example, is that of the Oxford Roman Economy Project.

4 M. Silver, “Glimpses of Vertical Integration/Disintegration in Ancient Rome,” *Ancient Society* 39 (2009), 171–184.

5 W. Broekart, “Vertical Integration in the Roman Economy,” *Ancient Society* 42 (2012), 109–125.

6 Livy, *Ab Urbe Condita*, 22.25.18–19. ‘[...] C. Terentius Varro, qui priore anno praetor fuerat, loco non humili solum sed etiam sordido ortus. Patrem lanium fuisse ferunt, ipsum institorem mercis, filioque hoc ipso in servilia eius artis ministeria usum.’ This was Gaius Terentius Varro, praetor of the year before,

whose antecedents were not merely base but even sordid. It is said that his father had been a butcher, who peddled his wares himself, and that he had employed this very son about the menial tasks associated with that calling. See also K. Dross-Krüpe, this volume.

7 See for example E. Seland, "The organisation of the Palmyrene caravan trade," *Ancient West and East* 13 (2014), 197–211.

8 M. Gawlikowski, "Palmyra as a Trading Centre," *Iraq* 56 (1994), 27–33; M. Gawlikowski, "Palmyra and its Caravan Trade," *Annales archéologiques arabes syriennes* 42 (1996), 139–144.

9 D. Coulon and D. Valérian, "Introduction" in *Espaces et réseaux en Méditerranée médiévale, II, La formation des réseaux*, ed. D. Coulon, C. Picard and D. Valérian (Paris: Bouchene, 2010), 7, defined networks in the broadest and simplest sense as 'a group of distinct elements (whether individuals or institutions or points in space) more or less joined by activities, common objectives or group), which could create hierarchies or structure itself into a system of organised relations' (transl. Author's own).

10 Their modern location further inland is due to the siltation of the Euphrates over time.

11 *IGLS* XVII, 59. See J.-B. Yon, *Inscriptions grecques et latines de la Syrie*. Volume XVII, fascicule 1, Palmyre, Bibliothèque archéologique et historique (BAH) 195 (Beyrouth: IFAPO, 2012), 71–72.

12 Herodotus, *Histories* 1.194.

13 C. Delplace and J. Dentzer-Feydy, *L'agora de Palmyre* (Bordeaux: Ausonius, 2005), VI.04, for a Palmyrene satrap in 131 AD on the island also honoured at Palmyra.

14 Inv. X.91 and 95. J. Cantineau, "Tadmorea," *Syria* 14 (1933), 187; Gawlikowski "Palmyra as a Trading Centre," n. 24; Bin Seray, "Spasinou Charax and its Commercial Relations with the East through the Arabian Gulf". Delplace and Dentzer-Feydy, *L'agora de Palmyre*, VI.14, for the inscription reinterpreted as 'Kushan' (rather than 'Choumanes').

15 Bin Seray "Spasinou Charax and its Commercial Relations with the East through the Arabian Gulf"; G. K. Young, *Rome's Eastern Trade: International Commerce and Imperial Policy, 31 BC–AD 305* (London: Routledge, 2001), 128.

16 T. Terpstra, *Trading Communities in the Roman World* (PhD thesis, Columbia University, New York, 2011), 103–105, 254, with further bibliographical references. See also T. Terpstra, *Trading Communities in the Roman World. A Micro-Economic and Institutional Perspective* (Leiden; Boston: Brill, 2013), 152–160 for Palmyrenes in Rome. Terpstra has also convincingly argued that the Nabataean mercantile network, for example, can be traced along the Aegean and in Italy, but also remains cautious in the case of Palmyrenes.

17 L. Dirven, "The Nature of the Trade between Palmyra and Dura-Europos," *ARAM* 8 (1996), 50 and n. 55. A container found with Palmyrene script in Qana, on the Arabian Gulf, mentions Achaea, and it has been suggested that it alludes to potential connections between Palmyrene merchants and a network of merchants in Achaea, Greece: see R. McLaughlin, *Rome and the Distant East* (London: Bloomsbury, 2010), 105. I have not been able to verify this, but the fact that we know of a trader going to Spasinou Charax named Zabdibol, son of Aachei (Delplace and Dentzer-Feydy, *L'agora de Palmyre*, VI.01) might suggest an alternative explanation, namely that Achaea is simply

a Palmyrene personal name.

18 S. M. Savage, "The Cults of Ancient Trastevere," *Memoirs of the American Academy in Rome* 17 (1940), 53–54. These consist of a bilingual Flavian altar dedicated to *Sol sanctissimus* (Latin)/Malakbel and gods of Palmyra (Palmyrene) (*CIL* 6.710 = 30817); a second-century AD relief and bilingual dedication to Bel, Yaribol and Astarte (*IG* 14.972); and a relief and bilingual dedication, dated to 235 AD, dedicated to Aglibol and Malachbel (*IG* 14.971). The cessation of dedications here in the third century AD was caused by the foundation of Aurelian's sanctuary of Sol (Savage, "Cults of Ancient Trastevere," 54).

19 Savage, "Cults of Ancient Trastevere," 53; see also G. W. Houston, "The Altar from Rome with Inscriptions to Sol and Malakbel," *Syria* 67 (1990), 189–193.

20 E. L. G. Will, *Les Palmyréniens: la Venise des sables (Ier siècle avant-IIIème siècle après J.-C.)* (Paris: Armand Colin, 1992), 83–84.

21 H. Seyrig, "Le prétendu founduq des Palmyréniens à Coptos," *Syria* 49 (1972), 120–125. *I. Portes* 103.

22 Translation adapted from Young, *Rome's Eastern Trade: International Commerce and Imperial Policy*, 80, with the main exception that *naukleroi* should be translated as ship owners and not merchants.

23 J. F. Healey "Palmyra and the Arabian Gulf Trade," *ARAM* 8 (1996), 35.

24 *SEG* 34.1593 = *I. Portes* 103. J. Bingen, "Une dédicace de marchands Palmyréniens à Coptos," *Chroniques d'Égypte* 59 (1984), 355–358. Young, *Rome's Eastern Trade*, 80–81.

25 The presence of Palmyrenes at Berenike on the Red Sea is well known through the discovery of a temple with the statue base of Hierobol, as well as Palmyrene dedications, but they are all associated with the military: *OGIS* 639; Steve Sidebotham, *Berenike and the Ancient Maritime Spice Route* (Berkeley, CA; London: University of California Press, 2011), 65–66. The first inscription, dated to AD 215, was dedicated by Palmyrene archers, while the second inscription was dedicated by the prefect and the second-in-command of the *Ala Thracum Herculiana*, a cavalry division which had been stationed at Palmyra until c. AD 185, at which point it was transferred to Koptos. Several dedications are also known from the Eastern Desert of Egypt, such as the one at the fort at Didymoi from the early third century AD (H. Cuvigny, *Didymoi. Une garnison romaine dans le désert Oriental d'Égypte*. Volume 2, Les textes. (Cairo: Institut français d'archéologie orientale, 2012), 47–50: *I. did.5*).

26 *CIS* II.3190. The last two lines have been suggested as a reference to a caravan (*sunodia*) coming to Denderah.

27 Young and McLaughlin both cite *naukleroi* for this inscription (Young, *Rome's Eastern Trade*, 81; McLaughlin, *Rome and the Distant East*, 105), but the original text does not mention this; it must be a conflation or confusion with the inscription from Koptos mentioned above (*SEG* 34.1593 = *I. Portes* 103).

28 John Cooper, pers. comm.

11. Businessmen and local elites in the Lycos valley

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Abstract: *Some settlements in Roman Asia Minor offer the historian a very dense epigraphic tradition. Ancient economic historians in particular take great interest in those settlements that provide an insight into economic and social conditions due to their local epigraphic habit. Hierapolis and Laodicea on the Lycos in south-western Phrygia offer outstanding examples. This paper demonstrates examples of people engaged in trade and crafts actively participating in elite affairs – and vice versa – by analysing inscriptions from those two towns dating from imperial times. It visualises networks between such people, classed as plebeii/humiliores, and local curial and even imperial elites (honestiores), which are detectable by means of network theory by creating nodes (i.e. individuals and groups of persons) and edges (i.e. connections between these nodes, symbolising their direct and mediate interactions). By doing so it demonstrates the abundance and intensity of cross-linkage between business people and elites in the Lycos valley.*

Keywords: Roman Asia Minor, epigraphy, economic networks, craftspeople, traders

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Introductory remarks

When looking at Roman literary sources one easily gains the impression that the Roman world was divided into clearly separated

groups: Roman citizens and non-Romans, freeborn, freedmen and slaves, elites and non-elites, decent professions and disreputable ones, *honestiores* and *humiliores*. Livy, for example, recounts an episode referring to the former praetor and later consul C. Terentianus Varro, who, according to Livy's opinion, had 'sprung not only from humble (*humiles*), but mean (*sordidus*) parentage. They report that his father was a butcher (*lanius*), the retailer of his own meat (*institor*), and that he employed this very son in the servile offices of that trade.'¹ Livy's statement is clearly to be put into the perspective of his general objective of defining an (explanatory) ideological framework for the Roman presence. Thus, it may mirror contemporary reservations towards certain social classes which perhaps played an even more prominent role in the late Republic/early Principate than for Varro's contemporaries during the Second Punic War.²

On closer examination, however, the abovementioned categories are not clearly selective. The traditional scepticism of the Roman elites towards certain sections of the population could not keep up with the increasing demands of reality – at least not in the imperial era. The idealised picture implied by members of the Roman elite as quoted above is sharply contrasted when one takes a closer look at documentary sources which offer a less ideologically charged perspective on the real-life circumstances of both groups that are of particular interest here: elites and business people.

The rich epigraphical evidence as well as the papyrological record – the latter mainly originating in Egypt – clearly demonstrate close ties between these two groups, a fact that has given rise to a vast amount of scholarly literature during the last few decades, often focussing on late republican and imperial times and – due to the abundance of material from that region – to Asia Minor. In regard to this very region of the Roman Empire as well as to the perception of local elites and non-elites in the second century AD it might be interesting to include a remark from one of Pliny's letters to Emperor Trajan.³ In this letter, dated between 28 January and 18 September 111, Pliny, being imperial governor of the Roman province of Pontus et Bithynia (*legatus pro praetore provinciae Ponti et Bithyniae*) refers to problems encountered by municipal magistrates in charge of the local five-yearly census. Pliny mentions a law laid down by Pompeius, who, after finally eliminating Mithridates, reorganised the latter's kingdoms into a Roman province. This gave rise to a *lex provinciae* for this new province, defining the basis of taxation as well as military obligations, self-government and the like. Apart from these regulations, Pompeius

also introduced Roman ideas of local government politics into the existing Hellenistic urban system of that region. Obviously, he also rearranged the constitution of the local city councils which were no longer elected annually but enrolled for life by censors. The *lex Pompeia* required a minimum age of thirty years for the city councillors, but several other positions, legally regulated by Augustus, set far lower age limits. This created a problem: the fact that city councils were usually recruited from various official positions made this highly responsible post also accessible to men under the age of thirty. However, the discrepancy in the *lex Pompeia* was regarded as secondary compared with the preference for admitting reputable, albeit younger, officials: '*quia sit aliquanto melius honestorum hominum liberos quam e plebe in curiam admitti*' (because it is much more desirable that the sons of honourable men should be admitted to the local council than that commoners should be). The emperor confirms this practice in his reply.⁴

Thus, for Pliny there is a cleavage between *plebeii* and *honestiores* – he considers only the latter a truly appropriate choice for a magistrate. But, in reality, the city councils of Bithynia et Pontus included members '*e plebe*' who had gained access due to insufficient numbers of applicants from the '*honesti homines*.'⁵ As Christian Marek points out with respect to that region: 'Unter den teilweise oder ausschließlich von Handel, Handwerk und Gewerbe lebenden Kleinasiaten sind Mitglieder des Ratsherrenstandes nichts Ungewöhnliches.'⁶

Starting from this point, this paper will demonstrate examples of business people (both craft workers and traders) actively participating in elite affairs – and vice versa – by analysing inscriptions from the Lycos valley in Phrygia dating from imperial times. It will attempt to visualise networks between business people and local curial and even imperial elites, which are detectable by means of network theory. Visualising those networks by creating nodes (i.e. individuals and groups of persons) and edges (i.e. connections between these nodes, symbolising their direct and mediate interactions) will enable a better understanding of the abundance and intensity of cross-linkages between business people and elites in the Lycos valley. It is to be hoped that the chosen case studies may act as stimuli for further research involving network analysis.

Applying network analysis: assumptions about nodes and edges

The material compiled in the following case studies has been known and published for decades. Applying network theory to these well-known inscriptions may be helpful, though, for analysing proven and assumed ties between individuals in Roman Asia Minor starting with the assumption ‘that the relationships between entities like people, objects or ideas matter.’⁷ Networks are seen as visualisations of existing and potential social relationships. Thus, in this paper networks are not necessarily seen as habitual and stable connections between the people involved, as for example Jürgen Osterhammel postulates,⁸ but comprise any connection between two individuals (or groups) in the source material used. This obviously includes certain assumptions:

1. Any direct connection between two individuals or groups of people (i.e. the nodes) in these networks entails connections between the neighbouring nodes as well. This includes direct connections proven by epigraphic findings as well as edges which are not directly apparent from the sources, but whose existence is most likely. This means concretely that if two people are proven to be directly interconnected, e.g. by being named in an inscription together, their family members would also be interconnected. These ‘secondary’ (or assumed) edges are given lesser weight in the network graphs.⁹
2. Any connection (be it direct or assumed via an intermediary node) both constrains and creates opportunities for communication.¹⁰ So, regardless whether the connected people or groups did actually know each other in everyday life, the existence of the connecting edges is considered as an opportunity of communication and thus at least as the possibility of establishing personal contact. Thus an honorific dedication by a professional association can reflect benefits deriving from an actual patronage relationship between the association and the honoured person as well as ‘a future claim on the protection of a highly-placed person’¹¹ in the hope of encouraging this very person to act as benefactor towards the association in the future.
3. Edges between nodes that could only be interconnected through more than two intermediary nodes were not assumed but neglected.¹²

Interconnected spheres: concatenation of Roman business people and elites in the Lycos valley

Case study 1: Tiberius Claudius Zotikos Boas

The first town under investigation is Hierapolis in Phrygia.¹³ The city owed its existence and prosperity to thermal springs, but it also benefited from marble deposits in the immediate vicinity, prosperous agriculture and crafts. In addition, Hierapolis had a flourishing cult of Apollo and held *agons* as a courtesy to the Roman emperor. In particular, the first three centuries AD were Hierapolis' heyday. The epigraphic record of that period clearly documents local prosperity and job specialisation caused by its distinctive location factors. All this obviously led to a self-confidence of the people working in prosperous crafts and trades in Hierapolis, manifesting itself in a massive presence of these business people in the public sphere and also among public authorities. Honorary inscriptions and honorific statues closely interlink craft workers and members of the local βουλή, but there are even more indications of close ties between these groups. On his sarcophagus, dating from the third century AD, Marcus Aurelius Alexander Moschianus calls himself a purple-seller (πορφυροπώλης) and a town councillor (βουλευτής).¹⁴ This shows that traders played active roles in Hierapolis' political administration and were thus not only wealthy enough but also respected enough to be part of the town's ruling classes.¹⁵

Certain members of the local elite of Hierapolis were obviously so prominent and powerful that they attracted honorific dedications like a magnet. Tiberius Claudius Zotikos Boas may be considered an example par excellence and was thus chosen for a more detailed case study. He lived during the third century AD and was obviously among the most respected functionaries of Hierapolis as he served as head of the group of στρατηγοί and was wealthy enough to act as a sponsor of festival games (ἀγωνοθέτης). He was also involved in the emperor cult in the province of Asia.¹⁶ This member of the Hierapolitan elite was honoured by not just one but two crafts associations – a common practice for professional associations to demonstrate their role within the local society and 'to define their relationships with their social superiors.'¹⁷ Business people, both when acting as individuals and even more so when acting as members of associations, used honorific inscriptions to clarify their role in the local community and to demonstrate their networks with the leading members of the local society.¹⁸ This is why the subjects of such honorific inscriptions set up by associations were normally members of the local elites.¹⁹ This is neither a new nor a surprising fact. However, visualising the ties between craftspeople and local curial elites in a network graph offers

Aurelius Zotikus Epikratos, for example, holds the purple-dyers responsible for the supervision of his grave if the association of nail-manufacturers, mentioned in the first place, and after them the association of coppersmiths, should fail to do so.²⁴ One may assume that his ties to the nail-manufacturers were the closest, but nevertheless he obviously maintained contact with the purple-dyers as well. The purple-dyers are also responsible for the graves of the brothers Marcus Aurelius Aegillus, Marcus Aurelius Aelianus Aegillus, and Marcus Aurelius Acindunus Drakontios²⁵ as well as for those of Publius Aelius Glykon Zeuxianos Aelianus and Aurelia Amia,²⁶ who provided them with 200 denarii as grave-crowning funds. The latter couple also passed on another grave-crowning fund (150 denarii) to the association of carpet-weavers. Finally, we must mention Marcus Aurelius Diodoros Koreskos, who was clearly a rather wealthy member of the Hierapolitian community.²⁷ He had connections to the purple-dyers, who were supposed to burn incense at his grave. If they failed to do so, the cattle-breeders would stand in. Diodoros also had connections to the local γεροντες. We thus find the purple-dyers not only wealthy and respectable enough to participate in the embellishment of the local theatre but also having connections to local and imperial elites and wealthy citizens (see Fig. 11.2). They appear to have had considerable access to and a command of wealth and civic power. They also seem to have been well connected to other craftspeople of the city.

As already mentioned, a second craft association dedicated a statue and inscription to Tiberius Claudius Zotikos Boas.²⁸ The wool-washers' inscription is almost identical to that of the purple-dyers, but this time we have the names of three members of this association: Marcus Aurelius Apollonios Pylon, Marcus Aurelius Ammianos, son of Ammianos, and Aurelianus Arruntianus, son of Hermuppos. With all due caution, we might reflect further on these three wool-washers mentioned in the dedication for Zotikos Boas. Marcus Aurelius Apollonios Pylon mentions his father, a certain Marcus Aurelius Apollonios, who might be identical with an individual of the same name who was buried with his wife Aurelia Paliane. In the inscription on his sarcophagus further family members and also the association of gardeners are mentioned, who will be liable to a fine if other people are buried in this grave.²⁹ This connects the wool-washers with the gardeners via Marcus Aurelius Apollonios (see assumption 1 above). They might also have had a similar connection to the linen-workers, as the name of the second wool-washer mentioned, Marcus Aurelius

Ammianos, appears in another inscription from third-century Hierapolis.³⁰ This grave inscription on the lid of a sarcophagus mentions grave-crowning funds given to the association of linen-workers. In addition, a group of φιλόπλοιοι ('people loving weapons'), is mentioned.

When reconstructing the network of the wool-washers, it becomes clear that these craftsmen are less visible in the overall epigraphic record of third-century Hierapolis than the purple-dyers. They appear only once in connection with grave service, for the grave of Aurelia Pakoma Pauline, buried with her husband Eutyches.³¹ One gets the clear impression that the craft of wool-washing was considerably less prestigious in Hierapolis than that of purple-dying – which is not at all surprising in view of the overall record of these crafts and the smelly substances they worked with.³² Nevertheless the Hierapolitan wool-washers also had connections to a local elite member and furthermore to other craft associations of their hometown (see [Fig. 11.3](#)). Their network appears almost as dense as that of the purple-dyers but, concerning social ranks, it is slightly less elevated. To conclude: Craftspeople such as purple-dyers and wool-washers clearly occupied a place in the hierarchy of the various status groups of Hierapolis and were well interlinked with both elites and less prominent town members.

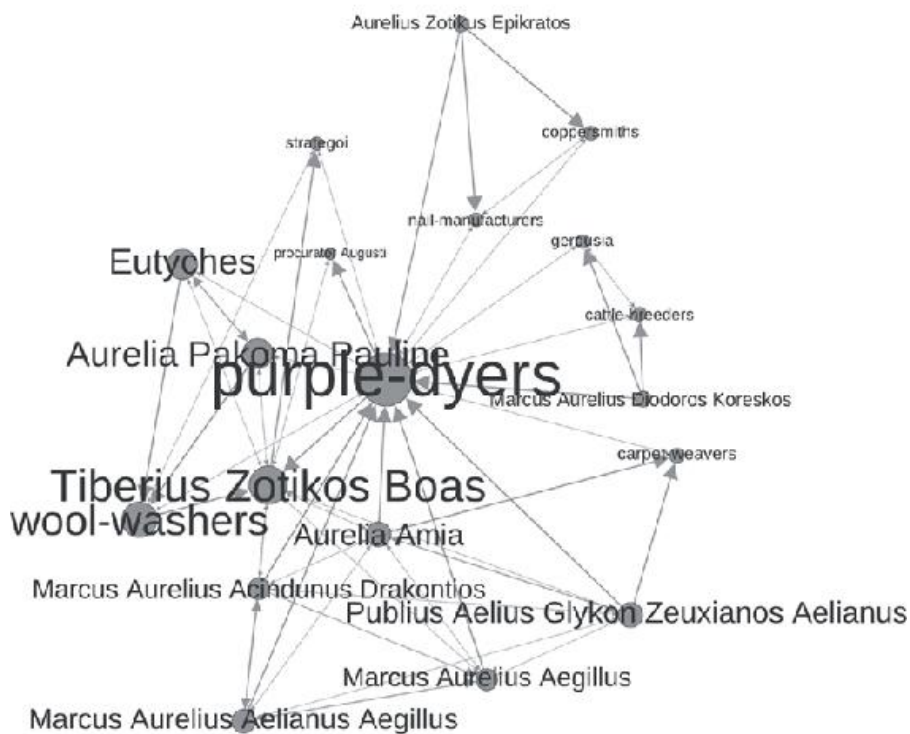


Figure 11.2. Network of the purple-dyers of Hierapolis according to the epigraphic record.

Case study 2: Aelia Larcia

The second example of close ties between business people and elite members originates from Laodicea on the Lycos, a neighbouring city of Hierapolis. The city was founded in the mid fourth century BC by the Seleucid ruler Antiochos II and is situated on a main artery from the Aegean coast to Syria. Onomastics show a large Greek population but Iranian, Semitic, Roman and indigenous names also appear. Laodiceia flourished in Roman times, its wealth to a great extent being based on its wool production.³³

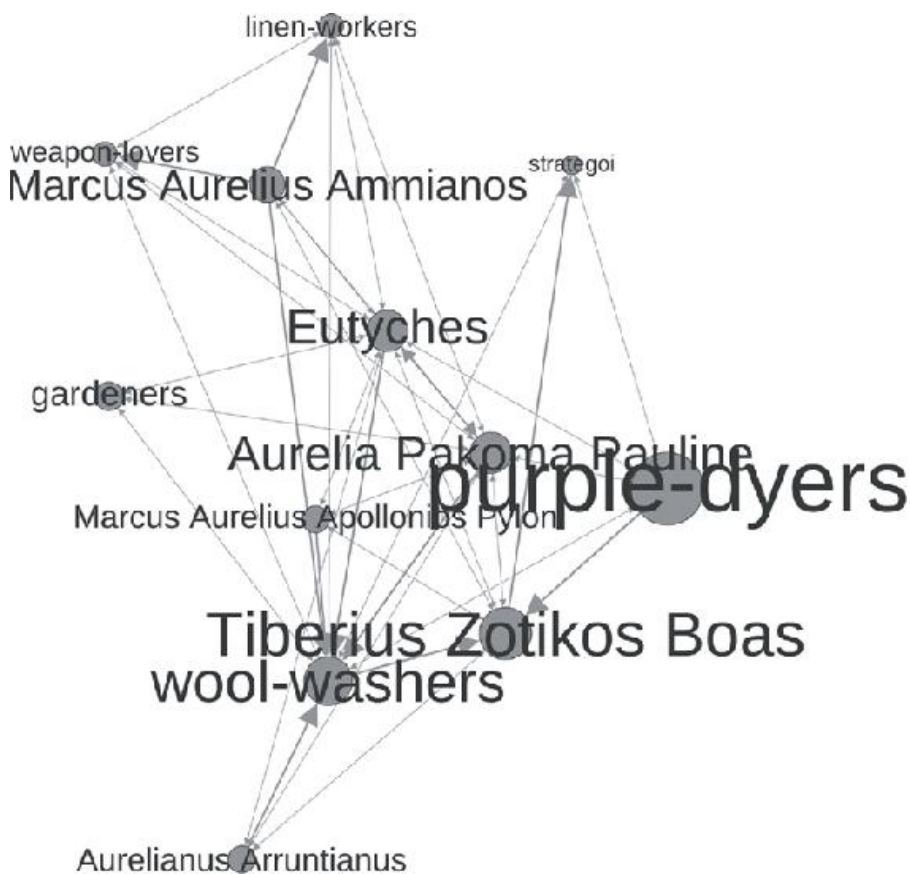


Figure 11.3. Network of the wool-washers of Hierapolis according to the epigraphic record.

The inscription used as a starting point for a Laodiceian business–elite network is a dedication to a certain noble woman, Aelia Larcia.³⁴ The dedication consists of two elements, as demonstrated by the accompanying inscriptions: the honorary statue of Aelia Larcia, and a marble altar serving as a base. The altar is inscribed on the front and back, naming the donors. The statue was dedicated by a Gaius Iulius Paterc(u)lus, who was a member of the local βουλή and a victorious sportsman – one almost certainly causing the other. It is interesting to note that Paterculus himself did not pay for the statue. The payment was made by another man, mentioned in the inscription on the opposite side: Sosthenes, son of Skymnos, a textile-dealer (εἰματιοπώλης). The latter obviously attained considerable wealth in his business, enabling him to pay for an honorary statue of a noble lady (Fig. 11.4). Aelia Larcia is not only called κρατίστης, so clearly belonging to an equestrian family, but, and this is even more

interesting in visualising her network, she is married to a certain Statilius Critonianus. The latter was certainly a descendant, maybe a grandson,³⁵ of Titus Statilius Crito, who is frequently quoted and mentioned in the works of Galen and was the chief physician (*archiatros*) of Emperor Trajan. Our textile-dealer can thus be connected to the Roman emperor via very few intermediaries.³⁶

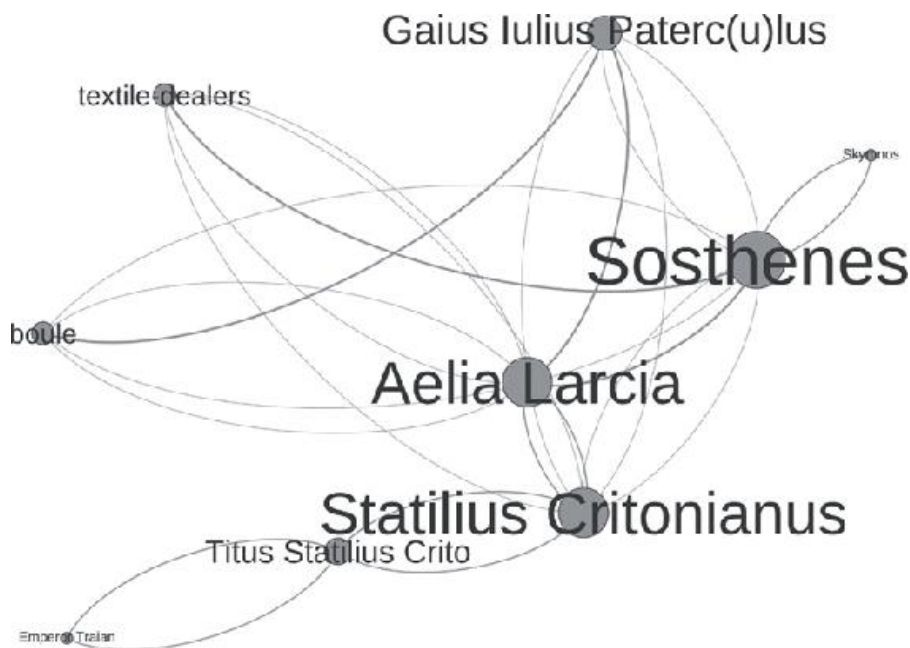


Figure 11.4. Network of Aelia Larcia according to IK Laodikeia 51.

It might be worth noting that similar phenomena can be observed in other parts of the Roman Empire as well; they are not distinctive regional features of Phrygia.

Interconnected spheres: examples of Roman craft workers as members of elites outside Phrygia

From the Roman province of Egypt we possess an abundance of material documenting the everyday life of common people. Thousands of private accounts, letters, receipts and contracts written on papyrus have survived, providing a detailed insight into the actual life circumstances of upper, middle and even lower classes – and thus into the interconnections between local elites, local craft workers and traders. A detailed and well-preserved contract from Oxyrhynchus, dating from AD 264, provides details about the apprenticeship of a

young boy who was supposed to learn the craft of linen-weaving.³⁷ This document is remarkable in several respects, but for our question its most important feature is the fact that the craft of weaving is to be learnt by the son of a former ἀγορανόμος, thus a municipal official, obliged to control order in the town's marketplace, and a public notary, responsible for a broad variety of documents such as loans, wills, marriage contracts and many more – a person to be held in a certain esteem.³⁸ Here is an example of a member of the curial class participating actively in a craft or trade. This example shows that in Roman Egypt craftspeople and local elites could be closely interconnected and by no means existed in separate spheres of life. It has been pointed out that the example of Roman Egypt is not a very representative one, as Egypt used to be seen by ancient historians as an outstanding extraordinary and consequently not comparable part of the Roman Empire.³⁹ Fortunately, during the last few decades this opinion has not only been challenged but often proven wrong.⁴⁰

In Magnesia, on the Maeander in the Roman province of Asia, we learn from an inscription that the fuller Poplios Patoulkios held the office of a πρόβουλος, and was thus a magistrate or delegate.⁴¹ The shaping of the letters points to the first century BC. According to other (Latin) inscriptions, the *gens* of the Patulcii was prevalent in southern Italy (mainly Campania, but also Calabria) during the late republican and the entire imperial eras.⁴² This leads to the assumption that Poplios might have been a member of an honourable Roman *gens* in Campania, living abroad, and probably had the financial capabilities to accept a costly municipal office. The craft of fulling in particular demonstrates a remarkable degree of social mobility in Roman times – an observation even more astonishing as fulling was by no means a highly-esteemed occupation.⁴³ In any case, the example of Poplios demonstrates again that curial members and craftspeople could not only be well interconnected but even identical – and this seems to be particularly true for Roman Asia Minor or, more generally, for the former Hellenistic eastern part of the Roman Empire.

Concluding observations

All these observations are well matched with the so-called ‘six degrees of separation,’ a theory which examines the average path length between two people and which comes to the hypothesis that every person can be linked to any other person by a maximum of six intermediary steps.⁴⁴ Applying this theory to the ancient world has

shown that this world was rather small – and that people were extremely well connected in pre-modern societies as well, even without mass communications and virtual social networks.⁴⁵ Though this may not be true for each and every inhabitant of the Roman Empire, one can assume from the examples demonstrated that, on the one hand, ‘humble’ craftspeople could become members of elites, such as Marcus Aurelius Alexander Moschianus, and that, on the other hand, Roman craftspeople in Phrygia (and certainly other provinces and regions as well⁴⁶) were well linked to the local and imperial elites, even right up to the emperor himself, by a surprisingly small number of steps. Therefore, there were literally more ties to be seen connecting local business people and local curial elites; once again it can be said that there was much more interaction, communication and interlinking than segregation in the ancient ‘small’ world. Members of elites as well as craft associations were crucial elements of this network as they were able to monopolise a large part of the edges within the network. They served likewise as multipliers, connecting and interconnecting large numbers of people. Further investigation in this field is desirable. A more systematic analysis including all the data available from a town like Hierapolis or Laodicea (or any other place) would be worthwhile to gain a more vivid visual impression of the complexity, density and extension of the networks between individual business people, private associations and local and imperial elites as well as changes over time.

What further conclusions can be drawn from these findings? And what further research could arise based on these few case studies? The acquisition of reliable connections between two individuals or groups and, moreover, the assumption that these direct connections serve as cross-links for additional contact opportunities (see above, assumptions 1 and 2) emphasise the numerous interconnections in a local community – and beyond. However, it is important to note that the resulting network graphs represent snapshots of the social networks. Inclusion of the time factor may result in a virtually vibrant network, constantly varying its nodes and edges. Especially in this case it would be desirable to include complete epigraphic findings concerning different locations, and also to emphasise the direction of edges, revealing the initiation points for a certain contact. This would reveal which connections are exceptionally stable, which nodes seem to act as social magnets or catalysts; and which individuals are more loosely connected, orbiting the network, only temporarily drawn into the attraction fields of certain nodes. The epigraphic findings as well

as the assumption of interconnection due to mutual nodes cannot mirror the social connections one-to-one, but as a whole they provide a very descriptive impression of social networks. The dynamics of these networks, which apparently traverse different social categories, could be the subject for future studies.

List of abbreviations

- BBerichtigungsliste der griechischen Papyruskunden aus Ägypten, Berlin and Leipzig 1913, Leiden 2002–.
- DEph. Inschriften von Ephesos, Teil 1–8, 1979–1984.
- ITLaodikeia Die Inschriften von Laodikeia am Lykos, Teil 1, Bonn: Habelt, 1997.
- IGRR. Cagnat (ed.), *Inscriptiones graecae ad res romanas pertinentes*. 4 vols., Paris: E. Leroux, 1911–1927.
- IRW. Reich in: *Altertümer von Hierapolis* (Jahrbuch des kaiserlich deutschen archäologischen Instituts, Ergänzungsheft 4), Berlin: Georg Reimer, 1898, 67–181.
- IRNap. Pennacchiotti, *Nuove iscrizioni di Hierapolis Frigia*, Atti della Accademia delle Scienze di Torino: II Classe di scienze morali storiche e filologiche 101 (1966–1967), 287–328.
- Kern (ed.), *Die Inschriften von Magnesia am Maeander*, Berlin: Spemann 1900.
- PT. *The Oxyrhynchus papyri*, London Egypt Exploration Society, 1898–.
- Ritti, *An Epigraphic Guide to Hierapolis (Pamukkale)*, Istanbul: Phoibos 2006.
- SEG. *Supplementum Epigraphicum Graecum*, Leiden, 1923–.
- TAM. *Tabulae Asiae Minoris*, Vindobonae, 1901–.

Notes

* I am very grateful to Eivind Heldaas Seland and Håkon Teigen for inviting me to this vibrant conference. I also wish to thank all the participants for providing such a stimulating climate of debate as well as Yvonne Wagner (Salzburg) and the unknown reviewer, as their comments helped to improve the manuscript and to clarify its main focus. I am equally indebted to Virginia Geisel (Marburg) and Jane Parsons-Sauer (Kassel) for revising the English version of my contribution. All remaining errors are obviously my own.

1 Liv. 22.25. 18–19.

2 One might want to add that Cicero mentions, in the same breath, craftsmen (*opifices*) and *tabernarii* with the scum of society (*faex civitatum*): *Opifices et tabernarios atque illam omnem faecem civitatum quid est negoti concitare, in eum praesertim qui nuper summo cum imperio fuerit, summo autem in amore esse propter ipsum imperi nomen non potuerit?* (Pro Flacco 18). Cf. A. M. Fleckner, *Antike Kapitalvereinigungen. Ein Beitrag zu den konzeptionellen und historischen Grundlagen der Aktiengesellschaft*, Forschungen zum römischen Recht 55 (Vienna: Böhlau, 2010), 529.

3 Plin. ep. 10,79. Vgl. A. N. Sherwin-White, *The Letters of Pliny: A Historical and Social Commentary* (Oxford university Press: Oxford, 1966), 669–674.

4 Plin. ep. 10,80.

5 Cf. F. Quaß, *Die Honoratorienschicht in den Städten des griechischen Ostens*.

Untersuchungen zur politischen und sozialen Entwicklung in hellenistischer und römischer Zeit, *Altetumswissenschaftliches Kolloquium* 15 (Steiner: Stuttgart, 1993), 383 and n. 143; R. Bernhardt, *Polis und römische Herrschaft in der späten Republik (149–31 v.Chr.)* (Berlin; New York: de Gruyter, 1985), 7, as well as D. Reitzenstein, *Die lykischen Bundespriester. Repräsentation der kaiserzeitlichen Elite Lykiens*, *Klio*, Beihefte, NF 17 (Berlin: Akademie Verlag, 2011), 88.

6 Chr. Marek, *Die Geschichte Kleinasien in der Antike* (Munich: C. H. Beck, 2010), 579. Cf. S. Dmitriev, *City Government in Hellenistic and Roman Asia Minor* (Oxford: Oxford University Press, 2005), 157–188, in particular 169, and C. Brélaz, *La sécurité publique en Asie Mineure sous le Principat (Ier–IIIème s. ap. J.-C.)*. *Institutions municipales et institutions impériales dans l’Orient romain* (Basel: Schwabe, 2005), 69–89.

7 T. Brughmans, “Thinking through Networks: A Review of Formal Network Methods in Archaeology,” *Journal of Archaeological Method and Theory* 20 (2013), 625.

8 J. Osterhammel, *Die Verwandlung der Welt. Eine Geschichte des 19. Jahrhunderts* (Munich: C. H. Beck, 2009), 1010.

9 All network graphs were created using the open source network tool Gephi (www.gephi.org).

10 S. P. Borgatti, *Analyzing Social Networks* (London: Sage, 2013), 1.

11 O. M. van Nijf, *The Civic World of Professional Associations in the Roman East* (Amsterdam: Brill 1997), 111.

12 B. Holzer, *Netzwerke*, 2nd edn (Bielefeld: Transcript, 2010), 71.

13 K. Ruffing, *Die berufliche Spezialisierung in Handel und Handwerk: Untersuchungen zu ihrer Entwicklung und zu ihren Bedingungen in der römischen Kaiserzeit im östlichen Mittelmeerraum auf der Grundlage griechischer Inschriften und Papyri* (Rahden-Westf.: Marie Leidorf, 2008), 256–265, with further literature.

14 ἡ σορὸς Μ(άρκου) Αὐρηλίου Ἀλεξάνδρου Μοσχianoῦ βουλευτοῦ πορφυροπώλου (IHierapJ 156).

15 There are similar examples from other places, such as Telesphoros from Nicomeida (SEG 27/828), who was βουλευτής and ναύκληρος, or a linen-weaver in Ephesus (IK Ephesus 2446), who was a member of the local *gerousia*, ὑμνωδός and λαμπαδαρχός (his name was later erased from the inscription). Cf. van Nijf, *Professional Associations*, 73–128 and H. W. Pleket, “Berufsvereine im kaiserzeitlichen Kleinasien,” in *Antike Lebenswelten – Konstanz, Wandel, Wirkungsmacht; Festschrift für Ingomar Weiler zum 70. Geburtstag*, *Philippika* 25, ed. P. Mautsch (Wiesbaden: Harrassowitz, 2008), 533–544.

16 For Zotikos see also U. Huttner, *Early Christianity in the Lycus Valley* (Leiden: Brill, 2013), 166–167.

17 van Nijf, *Professional Associations*, 73.

18 See also I. Arnaoutoglou, “Hierapolis and its Professional Associations: A Comparative Analysis,” in *Urban Craftsmen and Traders in the Roman World*, ed. M. Flohr and A. Wilson (Oxford: Oxford University Press, 2016), 278–300.

19 Picking some random examples from Asia Minor one may mention Claudius Alphenus Arignotos (TAM V,2 935; PIR I 821) in Ephesus or Claudia Ammion, whose father was three times γυμναζίασσορ (TAM V,2 972, cf. IK

Ephesus 1182 and 1620), and Aurelius Atremagoras in Thyateira (IGRR IV 1265). We know several cases of members of elites honoured, even repeatedly, by different associations from various places in Asia Minor such as Ephesus (e.g. IK Ephesus 727, 728 3075) or Thyateira (TAM 986; Tyche 12 [1997], 114).

20 Purple-dyers (IHierapJ 41): [ἡ σεμνοτάτη] | ἔργα[σία τῶν] | πορφ[υραβίων] | Τιβ(έριον) Κ[λ(αύδιον) Ζω]||τικὸν [Βοᾷ] | τὸν <π>ρῶ[τον] | στρατηγ[όν] | καὶ φιλό[τει]μον ἀγω[νο]||θέτην καὶ [γρᾱ]|να[ῶν] | τῶν ἐν Ἀσί[ᾱ] | καὶ πρεσβε[υ]|τὴν ἔνδοξο[ν] || καὶ ἀρχιερέα | εὐεργέτην | τῆς πατρίδος. Wool-washers (IHierapolJ 40): ἡ σεμνοτάτη | ἔργασία τῶν | ἑριοπλυστῶν | Τιβ(έριον) Κλ(αύδιον) Ζωτικὸ[ν] || Βοᾷ τὸν πρῶ|τον στρατηγὸ[ν] | καὶ φιλο[τει]μον ἀγωνοθέ[την] | καὶ γραμματέα || ναῶν τῶν | ἐν Ἀσίᾳ καὶ | πρεσβευτὴν | ἔνδοξον | καὶ ἀρχιερέα | εὐεργέτην | τῆς πατρίδο[ς], | προνοησάντω[ν] | τῆς ἀναστάσε[ως] | τῶν περὶ Μᾶρ(κον) Αὐρ(ήλιον) || Απολλώνιον δις | Πυλῶνᾱ κ[αί] Μᾶρ(κον) Αὐρ(ήλιον) | Ἀμμιανὸν Ἀμμι[ανοῦ] δις τοῦ Γλύ|κωνος <κ>α<ι> Αὐρηλί|ανὸ <ς> Ἑρμίππου | [Ἀρ] ρουντιανόν.

21 SEG 35/1369.

22 IHierapJ 42 (= IGR IV 822).

23 The edges connecting these people to one another and to Zotikos Boas are given lesser weighting in the network graph. As already stated above, it is further assumed that the family members were also part of this network.

24 IHierapJ 133.

25 IHierapP 23.

26 SEG 46/1656.

27 IHierapJ 227.

28 IGRR IV 821 (= IHierapJ 40).

29 IHierapP 25.

30 Ritti 1.

31 IHierapP 45.

32 See e.g. R. J. Forbes, *Studies in Ancient Technology*, vol. 4, 2nd ed. (Leiden: Brill, 1964), 13–16, B. Lowe, “The Industrial Exploitation of Murex: Purple Dye Production in the Western Mediterranean,” in *Colours in Antiquity: Towards an Archaeology of Seeing*, ed. L. Cleland (Oxford: Oxbow, 2004), 46–48; K. Droß-Krüpe, *Wolle – Weber – Wirtschaft: Die Textilproduktion der römischen Kaiserzeit im Spiegel der papyrologischen Überlieferung*, *Philippika* 46 (Wiesbaden: Harrassowitz, 2011), 33–34 and 95–96.

33 There is evidence for the importance and self-confidence of local pastoralists, e.g. IK Laodikeia 112. Cf. P. Herz, “Der Kaiserkult und die Wirtschaft – ein gewinnbringendes Wechselspiel,” in *Kaiserkult, Wirtschaft und spectacula. Zum politischen und gesellschaftlichen Umfeld der Offenbarung*, ed. M. Ebner and E. Esch-Wermeling (Göttingen: Vandenhoeck und Rupprecht, 2011), 67, n. 21 and Huttner, *Early Christianity in the Lycus Valley*, 160.

34 IK Laodikeia 51: (a): Αἰλίαν Λαρκίαν Δ[---] | τὴν κρατίστη[ν γυναι]κα | τοῦ κρατίστου Στα[τυλίου] | Κριτωνιανοῦ, Γ(άιος) Τούλι[ος] | Πατέρκλος βουλευ[τῆς] | ἱερoneϊκης παράδο[ξος] | τὴν εὐεργέτιν τῆς [πα]|τρίδος. (b): [Σ]ωσθ[ένης] Σκ[ύμ][ν]ου εἰματιοπ[ώ][λ]ης ἐκ τῶν ιδίων | [ἀ]νέστησε σὺν τῇ | [β]άσει καὶ τῷ βωμῷ.

35 P. Thonemann, *The Maeander Valley: A Historical Geography from Antiquity*

to *Byzantium* (Cambridge: Cambridge University Press, 2011), 222–226.

36 This may seem extraordinary at first sight, but is put into perspective when reconsidering the ‘Roman Web’ as ‘small world’ where communication was common albeit the absence of mass media or direct contact (cf. F. Krüpe, “Kennt ein Sklave seinen Kaiser? Das ‘Small-World-Phänomen’ im Imperium Romanum,” 32 (2014), 117–134, with further literature.

37 P.Oxy. 31/2581 with BL VI, 110.

38 U. Wilcken, *Griechische Ostraka aus Aegypten und Nubien: ein Beitrag zur antiken Wirtschaftsgeschichte I* (Leipzig: Giesecke und Devrient, 1899), 710f.; M. Raschke, “The Office of Agoranomos in Ptolemaic and Roman Egypt,” *Akten des XIII. internationalen Papyrologenkongresses (Marburg 1971)* (Munich: C. H. Beck, 1974), 349–356.

39 A very persistent view, still to be found in J. Méléze Modrzejewski, “Ägypten,” in *Rom und das Reich in der Hohen Kaiserzeit. 44 v.Chr.–260 n.Chr., vol. 2 – Die Regionen des Reiches*, ed. C. Lepelley (Munich; Leipzig: K. G. Saur, 2001), 457–518, esp. 510–511.

40 E.g. A. H. M. Jones, “The Cloth Industry under the Roman Empire,” *The Economic History* 13/2 (1960), 183–192, esp. 183f; R. Alston, *Soldier and Society in Roman Egypt: A Social History* (London; New York: Routledge, 1995); R. S. Bagnall and B. W. Frier, *The Demography of Roman Egypt* (Cambridge: Cambridge University Press, 1994), esp. 173; D. P. Kehoe, “Property Rights over Land and Economic Growth in the Roman Empire,” *Ownership and Exploitation of Land and Natural Resources in the Roman World*, ed. P. Erdkamp (Oxford: Oxford University Press, 2015), 88–106, esp. 100.

41 ἐπὶ στεφανηφόρου Αἰσχύινου μηνὸς Ἀγνεῶνος πρόβουλος Πόπλιος Πατούλκιος Λευκίου υἱὸς φυλῆς Διάδος γναφεύς (Kern 111); F. P. Kudlien, “Patulcius L. F., Walker und Probulo im späthellenistischen Magnesia,” *Laverna* 13 (2002), 56–68.

42 Cf. e.g. G. Camodeca, “L’élite municipale di Puteoli fra la tarda repubblica e Nerone,” in *Les élites municipales de l’Italie péninsulaire des Gracques à Néron. Actes de la table ronde internationale Clermont-Ferrand* (Naples Rome: École française de Rome, 1996), 91–110; R. Spadea, “Il foro di Scolacium. Ritratti e iscrizioni,” in *Les élites municipales de l’Italie péninsulaire de la mort de César à la mort de Domitien* (Rome: École française de Rome, 2000), 327–345.

43 On the craft of fulling and the socio-economic position of fullers, see M. Flohr, *The World of the fullo. Work, Economy, and Society in Roman Italy* (Oxford: Oxford University Press, 2013).

44 Cf. F. Kuldien, *Die Stellung des Arztes in der Römischen Gesellschaft: Freigeborene, Römer, Eingebürgerte, Peregrine, Sklaven, Freigelassene als Ärzte* (Stuttgart: Steiner, 1986), 63.

45 E.g. G. R. Ruffini, *Six Degrees of Separation: Social Sciences, Hubs, and Papyri in Byzantine Egypt* (Cambridge: Cambridge University Press, 2008); Krüpe, “Kennt ein Sklave seinen Kaiser?” passim.

46 E.g. Q. Otacilius Pollinus from Aventicum, who was *inquisitor III Galliarum* and acted as a patron towards a *corpus venalicioium* as well as of the *navatae Ararici et Rhodanici* (CIL 13, 11480–11492). Cf. R. Frei-Stolba, “Q. Otacilius Pollinus: Inquisitor III Galliarum,” in *Alte Geschichte und Wissenschaftsgeschichte. Festschrift für Karl Christ zum 65. Geburtstag*, ed. P. Kneißl and V. Losemann (Darmstadt: Wissenschaftliche Buchgesellschaft,

12. The social networks of Late Antique western Thebes

Elisabeth O'Connell and Giovanni R. Ruffini

Abstract: *Walter Till's prosopography of the Coptic sources from the Late Antique Theban region provides a ready-made data-set for network analysis. It allows us to study the connections between over 5,000 people, and learn more about the society in and around seventh- and eighth-century Jeme, a well-known town in that region. Half of these people form a single connected network, which allows more careful analysis of network characteristics. This network is more random than would be likely were it the product of a series of institutional or family archives because the texts derive from a range of archaeological sites within the region. Some of the most central figures in this network are witnesses to legal texts, including several prominent illiterates. The main blocks in the network reveal overlapping sets of connections. We argue that this is a consequence of viewing Late Antique Jeme's social structures from different social angles. The figures in this network with the strongest ties have official positions or ties to family groups. Concluding remarks address whether we should trust these results or treat them as artefacts of the surviving evidence.*

Keywords: Jeme, Thebes, network analysis, Egypt, Late Antiquity

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Introduction

Texts surviving in abundance from the rubbish heaps of ancient towns in Egypt provide unparalleled access to the everyday doings and dealings of Egypt's population, particularly for the Ptolemaic, Roman, Byzantine and early Islamic periods.¹ Their contents contain all manner of literary texts and documents such as letters, legal texts and tax receipts. The sheer number of texts surviving in Egypt provides a substantial body of evidence upon which to perform social network analysis. Whereas Greek texts from Ptolemaic and Byzantine Egypt have already produced fruitful studies, here we analyse the largest corpus of Coptic evidence from a single region.² Dating mainly to the seventh and eighth centuries AD, it provides a view of a rural Christian town, Jeme, and nearby settlements on the eve of and after the Muslim conquest of Egypt.



Figure 12.1. Map of the Theban region (M. Wachtal, © E. R. O'Connell).

Topography

The town of Jeme was located on the west bank of the Nile opposite the ancient Egyptian capital of Thebes on the east bank. In Late Antiquity settlements were built in and around the ancient Egyptian temple complexes on the east bank, notably at Luxor temple and Karnak (Fig. 12.1). The great majority of our evidence comes from the west bank, where Late Antique settlements were installed in and around the funerary temples and tombs of the ancient Egyptian capital's royalty and other elites (Fig. 12.2). Egyptologists more

interested in these ancient monuments and their original phases of use have, until recently, generally removed evidence of later phases with little or no documentation.³

Paradoxically, the removal of Late Antique remains from earlier structures has resulted in enormous collections of finds now distributed in international collections, including Coptic papyri and ostraca. The result is that western Thebes is one of the best documented places in Late Antiquity. Of c. 8,500 published documentary Coptic texts, over half can be attributed to the Theban region.⁴ Of these texts the vast majority are written on ostraca (up to 3,956) with a minority, albeit a sizable one, written on papyri (up to 372).

The temple of Seti I at Gurna was probably a town, although the 'clearance' of the temple in the nineteenth and twentieth centuries and the subsequent study of its material culture has not yet permitted a full assessment.⁵ Lying to the south was the temple of Ramesses III, known as today as Medinet Habu. This was the location of the Late Antique town of Jeme, as it was known in Coptic, or Memnoneia in Greek. Unlike later phases of use at the temple of Seti I at Gurna, later remains in the temple of Ramesses III at Medinet Habu were published by the University of Chicago expedition, thereby providing a wealth of archaeological information for subsequent scholars.⁶ Among the finds were texts (*O.Medinet Habu*).⁷ Since the find spots of the some of the ostraca were recorded, scholars have been able to associate some individuals and families named therein with specific dwellings,⁸ and to explore and reconstruct relationships between individuals, families and neighbours on the basis of their content.⁹

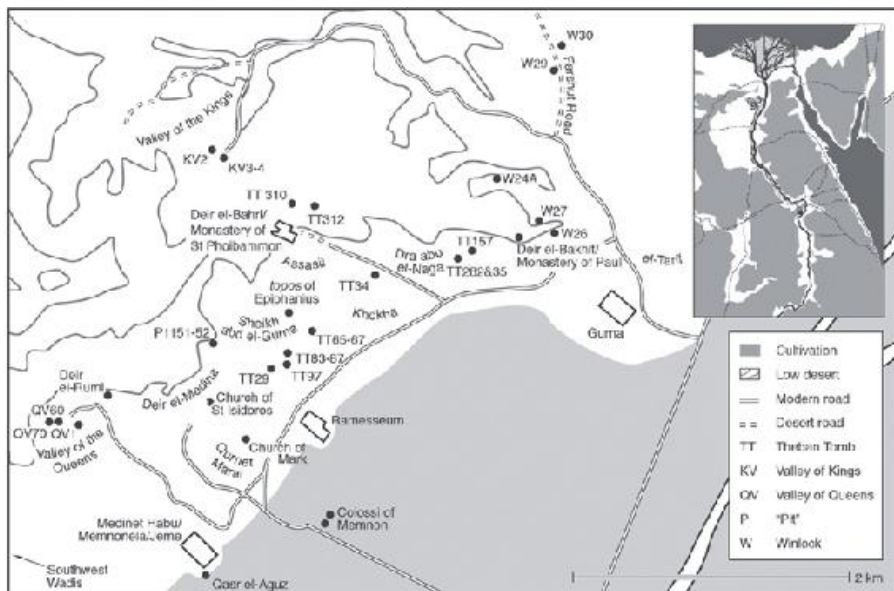


Figure 12.2. Map of sites in Western Thebes known to have been reused in Late Antiquity (M. Wachtal, © E. R. O'Connell).

In Late Antiquity, the desert escarpment rising above the cultivation was called the 'Mountain of Jeme' in Coptic (*toou nJeme*) and the 'Mountain of Memnoneia' in Greek (*oros Memnonion*).¹⁰ It was the location of more funerary monuments of ancient Egyptian kings and elites. Excavations at many of the places on the desert escarpment also yielded papyri and ostraca, and the names of saints' shrines, churches and monasteries are sometimes given therein or can be deduced (Fig. 12.2). Thus, the monastery of the holy martyr Phoibammon was founded upon the remains of the temple of Hatshepsut at Deir el-Bahri, the *topos* of Epiphanius was centred on a group of Middle Kingdom tombs at Sheikh abd el-Gurna, and the churches of St Mark and of St Isidoros were established in the courtyard of a rock-cut tomb at Qurnet Marai and the temple of Hathor at Deir el-Medina, respectively.

People living at these places on the mountain largely have titles that are clerical, monastic or both. Thus today, for example, there are over 200 ostraca to, from or concerning the bishop of Hermonthis, Apa Abraham (Abraham 47 below), the probable founder of the monastery of the holy martyr Phoibammon.¹¹ Texts from the site entered into many international collections in the eighteenth and nineteenth centuries, but a large body of Coptic texts was excavated by the Egypt Exploration Fund and published by W. E. Crum

(*O.Crum*).¹² Likewise, the Coptic and Greek texts excavated by the Metropolitan Museum of Art at the *topos* of Epiphanius were published by Crum and H. G. Evelyn White (*P.Mon.Epiph.*); Epiphanius 10, who has the titles anchorite, prophet and saint among other, more generic, titles, is the most notable figure in the texts.¹³

These are only two of the best-known people from among the places that have been excavated. Usefully, such excavated texts can be localised in the landscape. Their documents form a web of communication between sites. Many more of the texts now in international collections, especially official texts, such as legal texts on papyri which contain large numbers of names and thus are particularly useful for network analysis, are of unknown provenance. They concern people in Jeme or on its mountain and names overlap in many cases with people known from texts from excavated contexts. The dossier of the bishop of Koptos/Keft, Pesynte (*P.Pisentius*) and a hugely important corpus of legal texts on papyri (*P.KRU*) are of unknown provenance.¹⁴ Other groups of texts are found in publications by collection, with greater or lesser numbers from the Theban region; however, only a relatively small number of them can be localised at sites within the region (*BKU I* and *I*, *CPR IV*, *O.CrumST*, *O.CrumVC*, *P.CLT*, *O.Theb.Copt.*, *O.Vind.Copt.*, *P.Brit.Mus.Copt. I*).¹⁵

While the texts that form the Theban corpus are largely by, for or concerning people on the west bank, family and business contacts also extend to several towns on the east bank, and less frequently to larger cities such as Koptos/Keft to the north and Apollonopolis Magna/Tbo to the south and, in ecclesiastical circles, to Alexandria.

The limits of Till's prosopography

We use Walter Till's 1962 *Datierung und Prosopographie der koptischen Urkunden* to create our basic data-set.¹⁶ This data-set covers Coptic sources from the Theban region in the seventh and eighth centuries AD. In order to understand the potential and limits of social network analysis for the Theban region, it is essential to understand the biases of the sources Till used for his prosopography.

First, the prosopography only uses Coptic texts. It excludes contemporary or near contemporary Greek texts from the region (*O.Bodl. II*, *SB XVIII* 13777–13779). While surely far fewer in number than Coptic texts, Greek texts sometimes concern the same people. Thus the will of Apa Abraham, bishop of Hermonthis/Ermont, from c. 600 AD (*P.Lond. I* 77), does not appear in Till. Nor does it include the

697 AD letter from Flavius Atias, duke of the Thebaid, to the Monastery of Paul (*SB* III 7240).

These are perhaps the most prominent examples, but the absence of Greek texts must be taken into account. Greek continued to be the official language of Egypt until after the Arab conquest. Only from this time were legal and other official texts increasingly written in Coptic. Likewise, few Arabic texts are published as yet,¹⁷ and it is not clear how numerically significant they are in the region in the post-conquest period. The impression then that the region was inhabited mainly from 600 to 800 AD may be due to the bias toward the Coptic sources on papyri and ostraca, simply because they are more systematically published than the other corpora. Increasingly, other bodies of evidence such as pottery are suggesting that the chronology for settlement should extend earlier and later.¹⁸

Second, Till's prosopography contains names found on Coptic papyri and ostraca, but not inscribed on other surfaces, thus excluding the vast number of graffiti and other inscriptions from the region. While the Centre de documentation et d'études sur l'ancienne Égypte's monumental publication of graffiti from the Theban Mountain (*P.Theb.Mont.*) was too late to be used by Till, its point of departure, Spiegelberg's 1921 edition, was available. Likewise the Coptic (and Byzantine Greek) inscriptions in the Valley of the Kings were published by Baillet in the 1920s (*I.Syring.*), and facsimiles of Greek and Coptic graffiti from Medinet Habu, the ancient town of Jeme itself, were published in 1937 (*I.Medinet Habu*).¹⁹

Third, the great majority of our texts are ostraca, often letters between individuals who are well known to each other and thus do not use the titles, patronyms or matronyms that may make it possible to identify whether one or more individuals have the same name. Legal and administrative documents, which seek to identify the individual as securely as possible, are more useful for identifying the same individual across different texts for precisely this reason. The result is that contracting parties, witnesses and scribes, such as Aristophanes 1, are some of the most well connected people in the network (see below). Many of the people without affiliation in Till's prosopography may in fact appear elsewhere with titles.

The well-known case of Epiphanios 10 is instructive. Prior to the creation of Till's prosopography, Crum posited several scenarios to explain the many attestations of a man named Epiphanios. These scenarios include a senior Epiphanios and a junior Epiphanios or a junior Epiphanios who becomes senior.²⁰ Later, Till circumnavigated

this problem of multiple men named Epiphanios in his prosopography by directing the reader to Crum's index, a reference he includes amid his own citation of texts attesting to Epiphanios.

Early in our data entry, we had to decide how to interpret for Till something he avoided interpreting himself. By adding information to the references he included in his prosopography, we would introduce an additional layer of interpretation. For the analysis described here, we only include those texts cited by Till in his book (p. 85). Future analyses adding information from Crum and his index will probably show Epiphanios to be better connected in our network, or alter the rest of the picture in unpredictable ways.

Fourth, even prior to Till's compilation of names, the process of selection for publication was influenced by the identification of individuals known from other texts. Thus texts mentioning well-known historical figures such as Abraham, Epiphanios and Pesynte were privileged above others first for selection and then for publication. Therefore, they may appear better connected relative to their contemporaries.

Finally, since Till compiled his prosopography and published it in 1962, ongoing work in international collections and excavation has contributed many more texts from the Theban region. Work in old collections such as the British Museum (e.g., *O.Brit.Mus. Copt.* II), the Ashmolean (*O.Ashm.Copt.*), and other institutions has revealed more material (e.g. *P.Rain.Unterricht kopt.*).²¹ The publication of newly excavated material has only just begun (*O. TT 29*, *O.TT 65*, *O.Marc*) with many more editions planned (Deir el-Bakhit, 1151/52, the Valley of the Queens).²² So too, the ongoing publication of inscriptions continues to add to the corpus of names contemporary with the papyrological evidence (*I.Theb.Mont.*, *I.Deir el-Bahari Copt.*, *I.Deir el-Medina*, *I.Deir el-Bahari Gr.*).²³

These new texts would undeniably change our data-set. Integrating them into Till's prosopography would produce more complete and more refined results, but the same task would also raise hundreds of prosopographical questions. We leave integration of this substantial and growing body of material for another day. In defence of our position we say only that Till's prosopography has the advantage of being a ready-made data-set, and that its thousands of texts presumably represent a statistically meaningful sample of the social networks of Late Antique Western Thebes. For the sake of clarity, we note that Till's prosopography, and thus our analyses based on it, uses the person as its organisational unit, rather than the name.

Thus, each entry lists all known or believed attestations of a specific individual, not all known attestations of a personal name.

Prosopography and analysis

This prosopography is itself an imperfect instrument, subject to interpretation on a number of points. No two attempts to turn its data into a network would arrive at perfectly identical results. Our interpretation of Till's prosopography produces a data-set of 5,084 people appearing in 2,372 texts. Analysis of the complete network of people in the Till prosopography identifies 1,112 components.²⁴ The largest component has 2,598 people in it. This is the central component of the network of people which we extract for separate analysis.²⁵ (It is the central collection of nodes visible in [Figure 12.3](#), a visualisation of the complete network of people.) For the sake of focus, the rest of this paper will speak only about that central component; we will refer to it henceforth as the main component or main network.

The first step in our analysis is to look at the network characteristics of that main component. The 2,598 nodes in this network are connected by 41,089 arcs with a strength of 1, and 2,033 arcs with a strength greater than 1.²⁶ This network's density is 0.0067 and its average degree is 33.93. Our main network's density is extremely small, but this should not surprise us. Very large networks typically have small density: the greater number of nodes in the network makes it difficult to achieve higher levels of density. This low level of density may also be a symptom of the chronological spread of our data, which covers several generations across two centuries.

Note also the 20-to-1 ratio of single-tie connections to multiple-tie connections. We have a very broadly connected network, spanning over 2,500 people, but not a very deeply connected one. We have a poor understanding of the provenance of much of the original data, which might explain its network features (see above). We may be dealing with a relatively small number of large centralised archives belonging to just a few individuals, families or institutions. Alternatively, we may also be dealing with a broadly distributed cross-section of texts belong to a wide range of people. The most likely scenario is that we are dealing with some combination of possibilities.

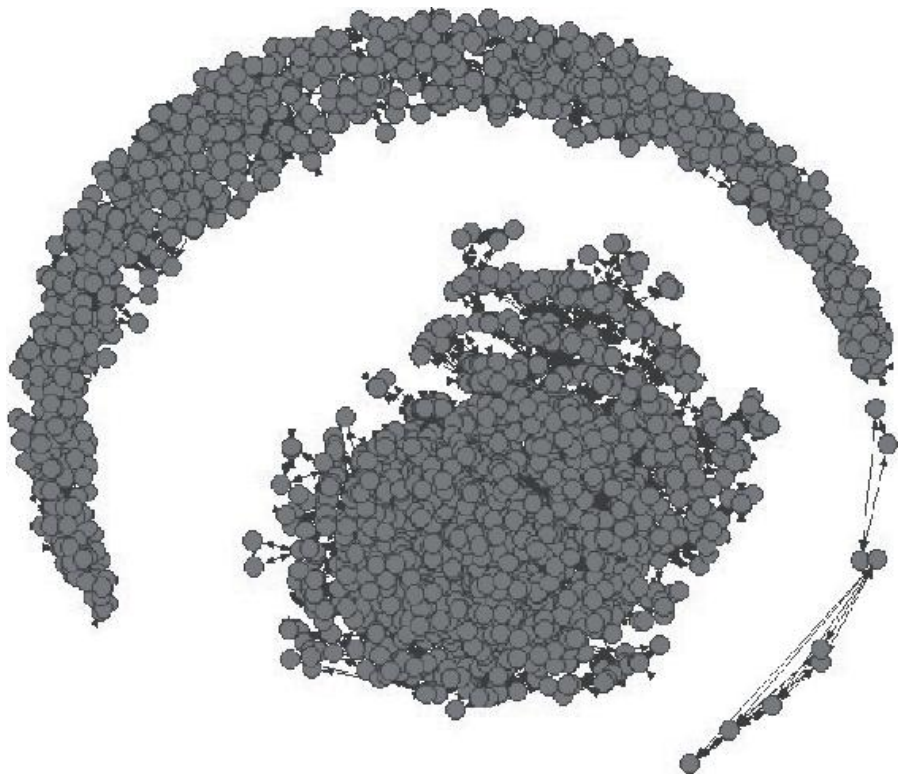


Figure 12.3. The whole network of Till's prosopography.

Our strong and weak ties give us a way at least to guess at the answers to these questions. On the one hand, a family archive is likely to have many recurring ties, between individual members of the family, between the family and its preferred scribes, between the family and its patrons and clients, and so on.²⁷ Likewise, an institutional archive; we may expect many recurring ties between (say) a monastery's scribes and the tenants on monastery property. On the other hand, a more random scattering of ostraca found throughout a wide range of houses in Jeme and other sites on its mountain might not have any recurring ties between the people mentioned in them, except through pure chance.

Our network's high number of weak ties and its low levels of density suggest that we are dealing with something closer to the second option. The 2,598 people in our data-set are a small fraction of the total population of the region in our period. If they were a non-random sample, predominantly from family or institutional archives, we might expect them to be better connected to each other. Our thin levels of connectivity reflect both the multiple archaeological contexts

from which texts derive and the social connections from Late Antique Jeme. This should give us a higher level of confidence in the accuracy of other analyses as we proceed.

Centrality measures

The next step is to look at the important people in our main network. We can begin with a centrality analysis of that main network.²⁸ The results are presented in [Table 12.1](#). The most obvious characteristic about this list at first glance is the dominance of religious figures ([Table 12.2](#)). Roughly half of this list is ecclesiastical or monastic. We see bishops, heads of monasteries, *hegemons* and, at a lower level, many monks, priests and deacons. Secular officeholders (e.g. *lashane*) are relatively few. Figures without any particular distinguishing characteristics – those who appear for instance only as witnesses – appear somewhat more frequently than secular officeholders, but nothing at all in proportion to what we must assume to have been their percentage of the Jeme population.

If we are worried that the written nature of the evidence privileges the literate, and thus the religious, who are more literate than average, and thus makes them appear more central, we would do well to consider the illiterates on the list. The top forty figures in [Table 12.2](#) include at least ten illiterates, one-quarter of the total. A couple of these figures – Jakob 6 and Mouses 14 – are likely central because of their prominent role in religious institutions. But at least half of our illiterates are highly central not because of any particular institutional role, but because they serve as witnesses.

This fact admits of multiple explanations. On the one hand, we may argue that being a witness is what makes these people central. (One-fifth of the people in our top forty are witnesses.) This is a conclusion grounded purely in the world of the text as an artifact: because these people are asked to be witnesses, they appear in texts connected to many people in important legal transactions, thus becoming more central in our network data-set. This is also a conclusion which supposes that network analysis accesses only the world of the text, not the real social world behind it.

On the other hand, we may argue that these people are chosen as witnesses precisely because they are already central. This explanation makes more sense in a social setting. Witnesses bring prestige and social legitimacy to a legal transaction. We are more likely to pick socially central witnesses for precisely this reason. This conclusion

supposes that network analysis does access the real social world of the past, and that the world of the text provides a sample of that social world, or a glimpse at its highest peaks.

Table 12.1. Top twenty most-central people from the main component.

Degree centrality	Closeness centrality	Freeman betweenness centrality
aristophanes1	aristophanes1	johannes93
psate11	johannes93	psate11
shenute8	psate11	aristophanes1
johannes25	phoibammon8	pesunte43
makarios6	psere5	abraham47
komes4	georgios17	mouses14
psere5	isak1	viktor66
surus2	konstantinos11	jakob6
markos6	makarios6	enoch16
david24	david24	epiphaios10
isak1	antonios7	surus2
swai7	shenute8	david42
pesunte43	severos9	johannes25
nohe1	kosma10	viktor115
dioskoros3	papnute26	frange2
germanos4	johannes25	isak1
pesunte32	papnute13	psan8
johannes33	swai7	mena15
strategios1	komes4	psere5
papnute13	germanos4	johannes85

Blocks and cutpoints

We can also analyse our main network for its breaking points, the places where the network can potentially break into disconnected blocks. A block is a portion of a network which cannot be broken down any further. Analysis of our main network of people identifies 448 blocks.²⁹ Most of these are very small, consisting of nothing more than pairs or trios of people. Only one block of people, the 448th, is exceptionally large, with 1589 people, over half of the total.

Let us analyse that block from the main network. This is the block of people centred around the scribe Aristophanes, a well-known figure from the region. A visualisation of the strongest ties between the people in this block appears in [Figure 12.4](#). This block includes all of the major players we would expect: everyone ranking in the top twenty in our various centrality measures appears in it. The very size of this block allows its central figures to reach levels of connectivity not available to players in smaller regions of the main network.

Table 12.2. Occupations and roles of the most central figures.

Figure	Occupation/role
abraham	47 Ermont, overseer of Phoibammon monastery
andreas	17, illiterate
aristophanes	1
david	24
dionysios	42 at Phoibammon, secretary, successor of Abraham
dionysios	33 illiterate
enneas	16 rite, <i>apa</i>
epiphanius	10 rder of the Epiphanius monastery
fronimos	2 of Jeme mountain
georgios	17 sistant
geronimos	64 mily involved in a division of house property
isakios	1 participant in a settlement of an estate
jakob	6, overseer of Epiphanius monastery, illiterate
johannes	25 wner in Jeme
johannes	33 literate, taxpayer
johannes	8 <i>oiketes</i>
johannes	9 <i>onomos</i> of Phoibammon monastery
kdinos	4 es, witness, probably illiterate
kostas	11 <i>le</i> , witness, illiterate
kostas	1 of Holy Maria, witness
makarios	6 illiterate
markos	6, illiterate
maria	15 and <i>lashane</i>
mnimos	14 <i>onomos</i> , illiterate
nphios	1 t and hegemon, church of Jeme
paphios	13 n
phapros	26 os
phios	32
phios	43 of Kbt
phios	11 banteon
psaros	8 seer, <i>apa</i>
psaros	1 resident, various roles
psaros	5 t and hegemon, church of Jeme; one person or two?
severios	9 assistant
slarios	8
	illiterate
strategios	1
sukios	2 n, monk, <i>oikonomos</i>
svetos	7 dent?
vilios	11 <i>histos</i>
vikios	6 <i>apa</i>

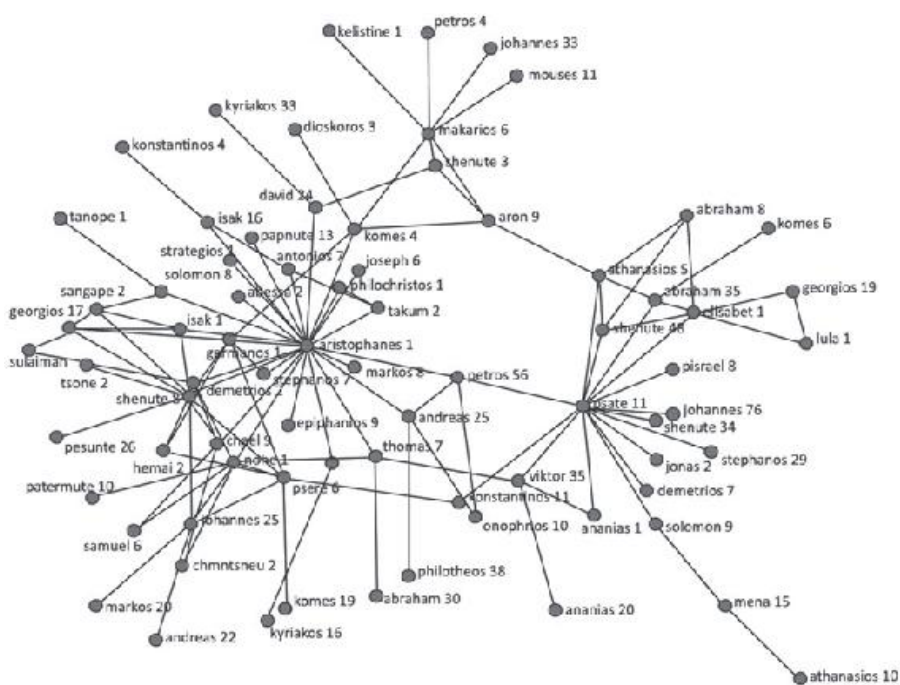


Figure 12.4. The largest block of the main component.

What is this block? What does it represent in real-world social terms? Given the prominence of Aristophanes, we may wonder whether this block is simply the group of people connected through their association to Aristophanes, through their appearance in texts Aristophanes himself wrote. But we can easily put this suspicion aside. Aristophanes appears in only thirty-seven texts in our data-set, a tiny fraction of the more than 900 texts represented by this block.

It is better to visualise the largest block in our network as a set of smaller overlapping ego networks, that is, networks focused on a single focal individual and the people connected directly to that individual. Aristophanes and his circle is only one of these ego networks. The individuals appearing in the most texts are the social mountains, the largest ego networks allowing us to map this landscape.³⁰ Most of these figures we have already encountered. The top ten individuals appearing in the most texts all figure in our earlier discussion of the network's most central figures.³¹

The key to understanding the network's largest block is to see how all of these figures and texts connect with each other. The most degree-central text is an innocuous little tax-receipt linking its major signatories, Petros 56 the *apé* and Psate 11, son of Pisrael. Petros and

Psate appear together in only two texts, a small fraction of the nearly one hundred in which Psate appears.

This is a clue to the structure of our network's largest block. Neither of these figures appears in a single text with the bishop Abraham 47, who lived about 100 years earlier. Nor do either of them appear in a single text with the secretary to Abraham's successor Victor, David 42, whose thirty-four attestations do not overlap with Abraham either. Johannes 25, who appears in twenty-seven texts, has no joint appearances with any of these figures. Psan 8 appears to have no joint appearances with any of the top ten figures. Viktor 66 appears over forty times, only three of them with any of these figures. Thus, the best-connected people are frequently not connected to each other directly.

This is all rather impressionistic, and can be measured more precisely. The concept of clustering measures the likelihood that anyone's connections will in turn be connected to one another. It is, in short, a measure of the overlap between social connections within a network. The clustering coefficient is the standard unit for this measure, approaching 1 where such overlap is nearly complete and approaching 0 where such overlap is nearly absent. The overall clustering coefficient for our main network is 0.713: people in our network tend to have overlapping social circles.

But the picture is quite the opposite for our leading figures. When each individual in our network is ranked according to their individual clustering coefficient, all of our top ten most degree-central people rank among the bottom fifteen as the least clustered people.³² Aristophanes 1, Psate 11, Johannes 25 and Markos 6 are the absolute bottom four on the list. To put it another way, the most socially prominent people in our network have ego networks with very little overlap between other parts of the social network.

This helps to explain the structure of our network's largest block.³³ It is so large in part because the people connecting it all have very large social circles, and because those social circles have relatively low levels of redundancy between them. This is both interesting and reassuring. It tells us that we are seeing Jeme's social network from different vantage points: the view from the vantage point of Johannes 93, *oikonomos* of the Phoibammon monastery, looks quite different from the view from the vantage point of Psate 11, the prominent Jeme resident.

But it also tells us that those vantage points do converge: our major figures do connect to enough people in the second and third

degrees of connection to create a very large network. That network in turn has a clustering coefficient much higher than the coefficients of its major players: in some regions of our network, we find considerable overlap, where the people seem to know each other quite well. We will discuss another manifestation of this phenomenon, the appearance of strong ties, in a subsequent section.

The main network's smaller blocks are potentially as interesting as the largest block of the main network. Every one of these blocks consists of a cutpoint – the block's bridge to the wider social world – and a group of people who would be socially isolated without their connection to that cutpoint. Learning who serves as these bridges, and who would be socially isolated without them, can tell us something about social isolation in Late Antiquity.

Blocks 317 and 10 are the second and third largest blocks in the network of people. Block 317, the main network's second largest block, consists of fifteen people appearing in five different interconnecting texts.³⁴ Daniel 36 and Dios 6 are the cutpoints connecting this block to the rest of the main network. Dios 6 is an interesting cutpoint: he was a doctor, head of the doctors' guild, and representative of the doctors' guild of Edfu. Indeed, Edfu is prominent in Block 317. Eleven of its fifteen people, including Dios, have ties to Edfu. This is presumably no coincidence. These people may comprise their own block, in relative social isolation from the rest of the network, precisely because they are outsiders to the wider Theban social network. But in this sense, they are probably exceptional, and the other small blocks will have other explanations for their social isolation.

Block 10, the main network's third largest block, consists of eleven people appearing in text *O.Crum* 438.³⁵ Johannes 19 son of Katot(e) is a taxpayer who appears in both text *O.Crum* 438 and text *O.Medinet Habu Copt.* 230. This makes him the block's only cutpoint, its only bridge to the rest of the main Jeme social network. Apparently, this block is not really a miniature network in its own right, consisting only of the people appearing in a single text, one of whom bridges them to the outside world.

Indeed, the vast majority of the small blocks are nothing more than pairs or trios of people in precisely this situation, appearing in a single text. Because every block has a cutpoint, these small blocks are essentially one or two social isolates reliant on their single connection to a cutpoint. We acknowledge that calling these people 'social isolates' simplifies the situation; these people may be social isolates in

our textual record without having been truly socially isolated in real life. Nonetheless, learning which types of people are more or less likely to be socially isolated in the text record will tell us something new about the social realities of Jeme and its environs, a project for future study.

Strong ties

The vast majority of connected pairs of people in our network have only one tie between them. In other words, they appear together in one text, but in no others. This is obviously not how the real world works: people who work together or do business together are very likely to do so more than once. But we may suppose that the written record as it survives is representative of the written record as it was in Antiquity. From this, it follows that the relative strength of ties in our network corresponds to the relative strength of ties in the actual ancient network. Put another way, two people who appear together ten times in our network are more likely to have been socially close in Antiquity than two people who appear together only twice in our network.

So who are the strongest ties in our Theban network? We will look here at the pairs of people who appear together the most often; and for sake of time save for later discussion the people who have strong ties with more people than others. Just as the vast majority of connected pairs of people have only one tie between them, the vast majority of connected pairs with multiple ties have only two or three ties between them. In other words, they appear together in two or three texts, but in no others. But there are outliers as well: the small handful of pairs appearing together in four or five texts, and the altogether exceptional pairs appearing together in six texts or more.

As with so many phenomena in network analysis, the frequency of these pairs – the common pairs with a few ties and the rare pairs with many ties – follows what is known as a power-law distribution (see [Figure 12.5](#)). Very often, the number of connections available to any given member of a network follows a similar distribution curve. It highlights what we already know intuitively, that some people (the outliers to the right side of the curve in the figure) are disproportionately more socially important in social networks. Their connectivity dwarfs the connectivity of many of the lesser figures combined.

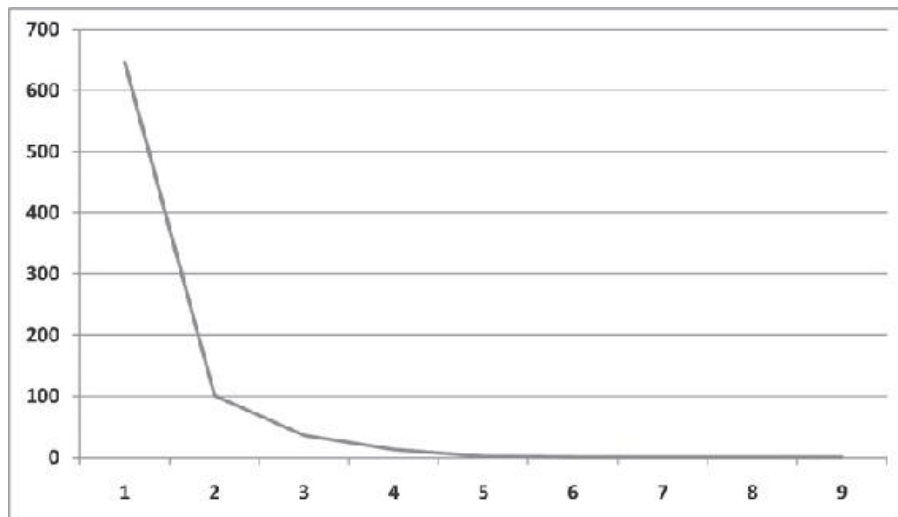


Figure 12.5. Distribution of strong ties (x-axis: number of ties in a connected pair; y-axis: number of pairs).

This group, the people who have more strong ties than others, deserves our particular attention. It quickly becomes apparent that not all of these pairs represent real social interaction. Aristophanes the scribe and Komes 4, son of Chael, make the perfect example. Komes held the position of *dioikêtês*, village magistrate or administrator, of Jeme and Aristophanes names him in that capacity in the protocol to most of his texts.³⁶ Ananias, an *apé*, and Viktor, a *lashane* of Jeme, appear together several times in tax receipts issued in the 710s and 720s AD.

A range of activities characterises the remaining cases. One pair, Germanos and Shenute, are father and son appearing together, with their family, in a number of legal transactions. Another pair, Psate, a scribe, and Pisrael, an *apé*, were jointly responsible for issuing a number of tax receipts in the early eighth century AD. Apa Isak and Apa Elias appear together in letters from the *topos* of Epiphaneios

This leaves us with our most strongly connected pair, Petros and Andreas. An *apé* Petros and an untitled Petros, judged by Till to be the same person, appear issuing a number of poll tax receipts (for payments of a half or a full *tremis*) in the first half of the eighth century AD. Most of these tax receipts are issued in conjunction with one local *strategos* or another, but all of them were issued with Andreas, a ‘Händler’ (business representative), or *pragmateutes*. Also present in the production of these tax receipts is Aristophanes himself; a large proportion of his scribal output was tax receipts.³⁷ Indeed, as

we saw above, Petros, Andreas and Aristophanes emerge as one of the central triads in our network. Through Petros they are also directly linked to Psate 11, whom we have just discussed.

The strong ties in the social nexus surrounding all of these tax receipts (both Petros and Andreas, on the one hand, and Psate and Pisrael on the other) draw attention to what Jenny Cromwell calls ‘the social realities of document production.’ As she points out, tax-receipt ostraca appear to have been produced ‘in some organized manner.’³⁸ Terry Wilfong’s study from the seventh international congress of Coptic studies draws attention to seventeen tax-receipt ostraca (unpublished, and thus not in Till’s prosopography) written by Johannes son of Lazaros (our Johannes 25) and countersigned by our Andreas 25. This unpublished material represents an even stronger tie for Andreas than the one we have already found between him and Petros. Andreas and Lazaros appear to have been ‘working together in the collection of tax on specific days in the summer of 727.’³⁹

How seriously should we take these strong ties? Again, we face the question of whether network analysis only examines artificial features created by the power of literacy, or whether it brings us face to face with real social features of ancient society. Yes, the texts are the physical objects creating strong ties in our computer analysis, but the texts did not create the social ties in Antiquity.

Andreas and Petros, and Andreas and Lazaros, were undeniably connected. We may speculate further, and suggest that their social connections predated and existed independently of their role in the issuance of tax receipts. How do we suppose official positions were filled in Late Antique Jeme? Did some higher-up outsider fill positions at random or based on merit? This seems unlikely. Much more probably, official positions were held by the local elite in teams, based on local alliances, based on who already knew each other and could be expected to perform well together. If this model makes sense, even strong ties generated by tax receipts are likely to represent meaningful social connections, and perhaps even real alliances, on the ground in Jeme.

Let us conclude with a quick look at what we have found: (1) a network with a large central component with a lot of weak ties, suggesting a random and widely representative sample; (2) centrality measures dominated by religious officials, witnesses and public officials, with the presence of illiterates suggesting that the measurements are not completely distorted by the lens of the written word; (3) a large block within our central component composed of

only distantly overlapping social circles of some of the region's key figures, suggesting that we see this social world through reinforcing vantage points; and (4) a set of strong ties organised around legal texts and tax receipts, suggesting that at least part of this artefact that we analyse is, in fact, distorted by the lens of the written word.

So we seem to have a mixed bag, a large, robust, multi-faceted network, but one not free of methodological complications. We conclude by turning our assertion about witnesses and tax receipts into a question: what is the way around the distortion created by the written word? Can we proceed with confidence in the belief that network analysis of texts does not create illusory social ties, but simply reveals the visible manifestations of an ancient social network otherwise hidden from our view?

Abbreviations

AKyI *Ägyptische Urkunden Aus Den Koeniglichen (later Staatlichen) Museen Zu Berlin: Koptische Urkunde*. Berlin, 1895–1905.

AKyII *Ägyptische Urkunden Aus Den Koeniglichen (later Staatlichen) Museen Zu Berlin: Koptische Urkunde*. Berlin, 1904.

OPPCIV Will, *Die Koptischen Rechtsurkunden Der Papyrussammlung Der Österreichischen Nationalbibliothek. Text, Übersetzungen, Indices*. Corpus Papyrorum Raineri 4. Vienna, 1958.

GDH *Deir el-Bahari V: Le Monastère de St. Phoibammon*. Warsaw, 1986, pp. 134–140.

Lajtar, A. *Deir el-Bahari in the Hellenistic and Roman periods: A study of an Egyptian temple based on Greek sources*. Journal of Juristic Papyrology Supplement 4. Warsaw, 2006.

CDH *Daumas*, F. *Les inscriptions coptes et grecques du Temple d'Hathor à Deir al-Médina: Suivies de la publication des notes manuscrites de François Daumas, 1946–1947*. Bibliothèque d'Études Coptes 16. Cairo, 2004.

Spiegelberg *1903* Spiegelberg, W., *Ägyptische und andere Graffiti (Inschriften und Zeichnungen) aus der thebanischen Nekropolis*. Heidelberg, 1921.

LS *Brillet*, *Inscriptions grecques et latines de tombeaux des rois ou syringes à Thèbes*. Cairo, 1920.

CDH *Thébaïde*, *Documentation et d'études sur l'ancienne Égypte. Graffiti de La Montagne Thébaïne*. Cairo, 1969–1983.

ME *Edwards*, *Medinet Habu Graffiti Facsimiles*. Oriental Institute Publications 36. Chicago, IL, 1937.

OPPCIV *Ziehner*, A. *Koptische Ostraka II: Ostraka Aus Dem Ashmolean Museum in Oxford*. Wiesbaden, 2000.

Bodl *Ball* and C. Préaux. *Greek Ostraca in the Bodleian Library at Oxford*. Egypt Exploration Society, Graeco-Roman Memoirs 33. London, 1955.

BM *Brillet*, *Coptic and Greek texts of the Christian period from ostraka, stelae, etc. in the British Museum*. London, 1905.

OPPCIV *Ziehner*, *Koptische Ostraka I: Ostraka aus dem Britischen Museum in*

London. Wiesbaden, 2000.

~~O. Flanagan~~, *Coptic Ostraca from the Collections of The Egypt Exploration Fund, The Cairo Museum and Others*. London, 1902.

~~O. Flanagan~~, *Short Texts from Coptic ostraca and papyri*. London; New York, 1921.

~~O. Flanagan~~, *Varia coptica: Texts, translations, indexes*. Aberdeen, 1939.

~~O. G. De Braker~~, *Deir el-Bahari V: Le Monastère de St. Phoibammon*. Warsaw, 1986, pp. 134–140.

~~B. M. A. Heurtel~~, A., and C. Heurtel. *Ostraca et papyrus coptes du Topos de Saint Marc à Thèbes*. Bibliothèque d'Études Coptes 24. Cairo, 2016.

~~St. M. A. Heurtel~~, M. Lichtheim. *Coptic Ostraca from Medinet Habu*. University of Chicago Oriental Institute Publications 71. Chicago, IL, 1952.

~~A. Theban~~, *Theban Ostraca: Edited from the Originals, now mainly in the Royal Ontario Museum of Archaeology, Toronto, and the Bodleian Library, Oxford*. Toronto, 1913.

A. Boud'hors and C. Heurtel. *Les ostraca coptes de la TT 29: Autour du moine Frangé*. Études d'archéologie thébaine 3. Brussels, 2010.

~~A. Flanagan~~, *Coptic texts from the 'Monastery of Cyriacus', TT 65*. Studia Aegyptiaca 20. Budapest, 2013.

~~O. Flanagan~~, *Die Koptischen Ostraka der Papyrussammlung der Österreichischen Nationalbibliothek; Texte, Übersetzungen, Indices*. Österreichische Akademie Der Wissenschaften, Philosophisch-Historische Klasse 78. Vienna, 1960.

~~St. M. A. Heurtel~~, A. A. Ten Coptic Legal Texts. New York, 1932.

~~St. M. A. Heurtel~~, W. E., and G. Steindorff. *Koptische Rechtsurkunden des achten Jahrhunderts aus Djême (Theben)*. Subsidia Byzantina lucis ope iterata 18. Leipzig, 1912.

~~St. M. A. Heurtel~~, J. F. G., H. I. Bell, and W. E. Crum. *Greek Papyri in the British Museum*. London, 1893.

~~St. M. A. Heurtel~~, W. E. and H. G. Evelyn-White. *The Monastery of Epiphanius at Thebes 2*. Publications of the Metropolitan Museum of Art Egyptian Expedition 3, 4. New York, 1926.

~~St. M. A. Heurtel~~, "Textes Coptes. Extraits de la correspondance de St. Pésunthius, évêque de Coptos, et de plusieurs documents analogues (juridiques et économiques)," *Revue Égyptologique* 9:133–177, 10:34–47, 14:22–32 (1900, 1902, 1914).

~~St. M. A. Heurtel~~, *Neue Texte und Dokumentation zum Koptisch-Unterricht*.

Mitteilungen aus der Papyrussammlung der Nationalbibliothek in Wien (Papyrus Erzherzog Rainer). Neue Serie 18. Vienna, 1990.

~~St. M. A. Heurtel~~, *Preisigke Sammelbuch griechischer Urkunden aus Ägypten*. Berlin inter alia, 1915.

~~St. M. A. Heurtel~~, *Koptisches Sammelbuch I–III*. Mitteilungen aus der Papyrussammlung der Nationalbibliothek in Wien (Papyrus Erzherzog Rainer). Neue Serie 23. Vienna, 1993–2006.

Notes

1 This chapter is adapted from an unpublished manuscript by Elisabeth O'Connell and Giovanni Ruffini performing network analysis on Till's prosopography. It was initially intended to be delivered at the Coptic Studies conference in Rome, and was modified for delivery in Athens in 2015.

2 Ptolemaic: K. Mueller, "Places and Spaces in the Themistou Meris (Fayum/ Graeco-Roman Egypt). Locating Settlements by Multidimensional Scaling of Papyri," *Ancient Society* 33 (2003), 103–125; "Mastering Matrices and

Clusters, Locating Graeco-Roman Settlements in the Meris of Herakleides (Fayum/Egypt) by Monte-Carlo-Simulation,” *Archiv für Papyrusforschung* 49 (2003), 218–254; *Archiv für Papyrusforschung* 50 (2004), 199–214; with Piotr Hoffman and Bartek Klin, “Careful with that Computer: On Creating Maps by Multidimensional Scaling of Papyri in Katja Mueller’s Recent Studies on the Topography of the Fayum,” *Journal of Juristic Papyrology* 36 (2006), 67–90. Byzantine: G. Ruffini, *Social Networks in Byzantine Egypt* (Cambridge: Cambridge University Press, 2008). For a survey of more recent work using the Trismegistos Database, see *Six Degrees of Spaghetti Monsters Blog*, <http://spaghetti-os.blogspot.be/>.

3 For overviews of the excavation, publication and scholarship, see T. G. Wilfong, “Western Thebes in the Seventh and Eighth Centuries: A Bibliographic Survey of Jême and Its Surroundings,” *Bulletin of the American Society of Papyrologists* 26 (1989), 89–145 and E. R. O’Connell, “Excavating Late Antique Western Thebes: A History,” in *Christianity and Monasticism in Upper Egypt II: Nag Hammadi-Esna*, ed. G. Gabra and H. N. Takla (Cairo: American University in Cairo Press, 2010), 253–270. For Jeme in the larger context of the contemporary Mediterranean economy, see C. Wickham, *Framing the Early Middle Ages: Europe and the Mediterranean 400–800* (Oxford; New York: Oxford University Press, 2005), 419–427.

4 These and the following figures were obtained by searching the Brussels Coptic Database’s 8569 records for ‘thebaine’, which returns 4354 records, including ‘thebaine?’; see A. Delattre, “Brussels Coptic Database.” 2005–. <http://dev.ulb.ac.be/philobad/copte/baseuk.php?page=accueiluk.php> (last accessed 26 Jan. 2016).

5 Occupation is proven by pottery from the site: K. Mysliwiec, *Keramik Und Kleinfunde Aus Der Grabung Im Tempel Sethos’ I in Gurna*, *Archäologische Veröffentlichungen* 57 (Mainz am Rhein: von Zabern, 1987); R. Stadelmann, “The Mortuary Temple of Seti I at Gurna: Excavation and Restoration,” in *Fragments of a Shattered Visage: Proceedings of the International Symposium of Ramesses the Great*, ed. E. Bleiberg and R. Freed, 251–269 (Memphis, TN: University of Memphis, 1991), 252.

6 U. Hölscher, *The Excavation of Medinet Habu V: Post-Ramesside Remains* (Chicago, IL: University of Chicago, 1954).

7 The book-length editions of texts connected with sites or modern collections are given in the following paragraphs. For article and book-chapter length studies up to 2009, see O’Connell, “Excavating”.

8 T. G. Wilfong, *Women of Jeme: Lives in a Coptic Town in Late Antique Egypt* (Ann Arbor, MI: University of Michigan Press, 2002), 117–149.

9 J. Cromwell, “Keeping it in the Family: Property Concerns in Eighth Century A.D. Thebes,” *Journal of Near Eastern Studies* 72 (2013), 213–232; T. Vorderstrasse, “Reconstructing Houses and Archives in Early Islamic Jeme,” in *Household Studies in Complex Societies: (Micro) Archaeological and Textual Approaches. Papers from the Oriental Institute Seminar, Household Studies in Complex Societies, held at the Oriental Institute of the University of Chicago, 15–16 March 2013*, ed. M. Müller (Chicago, IL: University of Chicago, 2015), 417–425.

10 For a discussion of the meaning of *oros* and *toou* in this context, see E. R. O’Connell, “Transforming Monumental Landscapes in Late Antique Egypt,”

11 This number includes texts identified since Till's prosopography was published; see M. Krause, "Bishops, Correspondence of," in *The Coptic Encyclopedia*, ed. A. S. Atiya (New York: Macmillan Publishers, 1991), 401a.

12 The evidence for the Christian site is collected in W. Godlewski, *Deir el-Bahari V: Le monastère de St. Phoibammon* (Warsaw: Éditions Scientifiques de Pologne, 1986).

13 H. E. Winlock, and W. E. Crum, *The Monastery of Epiphanius at Thebes I*. Publications of the Metropolitan Museum of Art Egyptian Expedition 3 (New York: Metropolitan Museum of Art, 1926), 209–223.

14 Some letters addressed to Pesynte have been discovered at the *topos* of Epiphanius, e.g., *P.Mon.Epiph.* 254, suggesting that he may have lived there at least for a while. For ongoing work on the Pesynte archive, see J. van der Vliet, "Les archives de Pesynthios: Nouvelles découvertes, nouvelles questions," in *Études coptes XII, quatorzième journée d'études (Rome, 11–13 Juin 2009)*, ed. A. Boud'hors and C. Louis (Paris: de Boccard, 2013), 263–270. For recent discussions of the provenance of *P.KRU*, see e.g. J. Cromwell, "The Archive History of Coptic Documents from Jeme Held in the British Library," in *Current Research on Egyptology: Proceedings of the Seventh Annual Symposium, Oxford, April 2006*, ed. M. Cannata (Oxford: Oxbow, 2007), 54–65; Vorderstrasse, "Reconstructing", 418–419.

15 These are the major collections; see Till's list of abbreviations all of the material gathered by him from editions and articles (W. C. Till, *Datierung und Prosopographie der Koptischen Urkunden Aus Theben*, (Vienna: H. Boehlau, 1962), 5–8).

16 A data-set we then analysed with UCINET (S. P. Borgatti, M. G. Everett and L. C. Freeman, *Ucinet for Windows: Software for Social Network Analysis* [Harvard, 2002]) and Pajek (available online at <http://mrvar.fdv.uni-lj.si/pajek/>). For a brief summary of network analysis on papyrological data from Roman Egypt, and a discussion of the terminology used in this paper, see Ruffini, *Social Networks*, 14–40.

17 E.g., B. Liebrecht, "Eine frühe arabische Quittung aus Oberägypten," *Archiv für Papyrusforschung und Verwandte Gebiete* 56 (2010), 294–314.

18 For Hermitage P 1152 with evidence dating c. sixth–eighth century, see e.g. T. Górecki, "‘It might come in useful’ – Scavenging among the Monks from the Hermitage in MMA 1152," *Études et travaux du Centre d'archéologie méditerranéenne de l'Académie polonaise des sciences* 29 (2014), 131; for Deir el-Bakhit, fifth/sixth–eighth/ninth century, with a small number of sherds dating up to the twelfth century, see T. Beckh, *Zeitzeugen aus Ton: Die Gebrauchskeramik Der Klosteranlage Deir El-Bachit in Theben-West (Oberägypten)* (Berlin: de Gruyter, 2013), 70–71; and for the dating of occupation in the Wadi Alamat near Deir el-Bakhit as early as the fifth/sixth century, see Beckh in D. A. Polz, U. Rummel, I. Eichner, and T. Beckh, "Topographical Archaeology in Dra' Abu el-Naga: Three Thousand Years of Cultural History," *Mitteilungen des Deutschen Archäologischen Instituts, Kairo* 68 (2012), 133.

19 For editions of Medinet Habu Greek and Coptic inscriptions, see W. Brunsch, "Griechische und koptische Graffiti aus Medinet Habu," *Wiener Zeitschrift für die Kunde des Morgenlandes* 75 (1983), 19–33.

20 Winlock and Crum, *Monastery*, 210–11.

21 See O'Connell, "Excavating," 268.

22 For Deir el-Bakhit, see Hodak in T. Beckh, I. Eichner, and S. Hodak, "Briefe aus der koptischen Vergangenheit: Zur Identifikation der Klosteranlage Deir el-Bachît in Theben-West," *Mitteilungen des Deutschen Archäologischen Instituts, Kairo* 67 (2011), 15–30; for 1151/52 see I. Antoniak, "New Ostraca from Thebes," in Gabra and Takla, *Christianity and Monasticism*, 1–6, inter alia; for the Valley of the Queens, see G. Lecuyot, and M. Pezin, "Documents coptes découverts au Deir er-Roumi, dans la Vallée des Reines et le Ouadi du Price Ahmès," in *Actes du Huitième congrès international d'études coptes: Paris, 28 Juin–3 Juillet 2004*, ed. N. Bossons and A. Boud'hors (Louvain: Peeters, 2007), 759–786 and G. Lecuyot and A. Delattre, "Ostraca découvert au Deir el-Roumi au cours de la mission 2007–2008," in *Étude coptes XIII: Quinzième journée d'études Louvain-la-Neuve, 12–14 Mai 2011*, ed. A. Boud'hors and C. Louis (Paris: de Boccard, 2015), 107–120.

23 For ongoing work on inscriptions, see, e.g., T. Derda, and A. Łajtar, "A Christian Prayer from Ramses IVth Tomb in the Theban Valley of the Kings," *Journal of Juristic Papyrology* 24 (1994), 19–22 and A. Delattre, "Graffitis de la montagne Thébaine I–II," *Chronique d'Égypte* 76 (2001), 333–339; 78 (2003), 371–380.

24 UCINET: Network->Regions->Components->Simple Graphs.

25 UCINET: Data->Filter/Extract->Main Component.

26 Pajek: Info.

27 Compare, for example, multiplex ties in the family archive of Dioskoros of Aphrodito: Ruffini, *Social Networks*, 147–149 and 228–232.

28 Degree, Closeness and Freeman Betweenness Centrality Top 20 from this component are the same as from the whole network.

29 UCINET: Network->Regions->Bi-Component.

30 Note that the individual appearing in the most texts is not necessarily the most degree central. The same is true for texts: the most degree central text is not necessarily the text naming the most people.

31 In alphabetical order, the ten people appearing in the most texts are: Abraham 47, Aristophanes 1, David 42, Johannes 25, Johannes 93, Pesunte 43, Petros 56, Psan 8, Psate 11, Viktor 66.

32 UCINET: Network->Cohesion->Clustering Coefficient. Here, we remove from consideration those with a coefficient of zero, with no overlaps at all. The resulting list is of size $N = 2343$.

33 Note that the preceding analysis of Block 458 discusses the characteristics of its major players within the major component, not within the block itself.

34 These are Andreas 4, Daniel 36, Dios 4, Dios 6, Dorotheos 1, Herai, Joannake 3, Kyrillos 4, Martinos 1, Teret 2, Theodoros 7, Theodoros 9, Viktor 5, Viktor 42 and Zacharias 4 in *O.CrumVC* 5, *O.Crum* 314, *P.Epiph.* 287, *O.CrumST* 48 and *SB* 5112.

35 These are Andreas 6, Antonios 3, Athanasios 13, Hone, Johannes 19, Johannes 71, Kople, Petros 41, Psate 3, Psate 21, Swa 8 and Zacharias 31 in *O.Crum* 438 and *O.Medinet Habu Copt.* 230.

36 Note discussion in Jennifer Cromwell, *Individual Scribal Practice at Jeme: The Papyri of Aristophanes son of Johannes* (Doctoral Thesis, University of Liverpool, 2008), volume 1, 3.

37 See the list in Cromwell, *Individual Scribal Practice*, 1.186.

[38](#) Cromwell, *Individual Scribal Practice*, vol. 1, 101.

[39](#) Cromwell, *Individual Scribal Practice*, vol, 1, 101, citing Wilfong.